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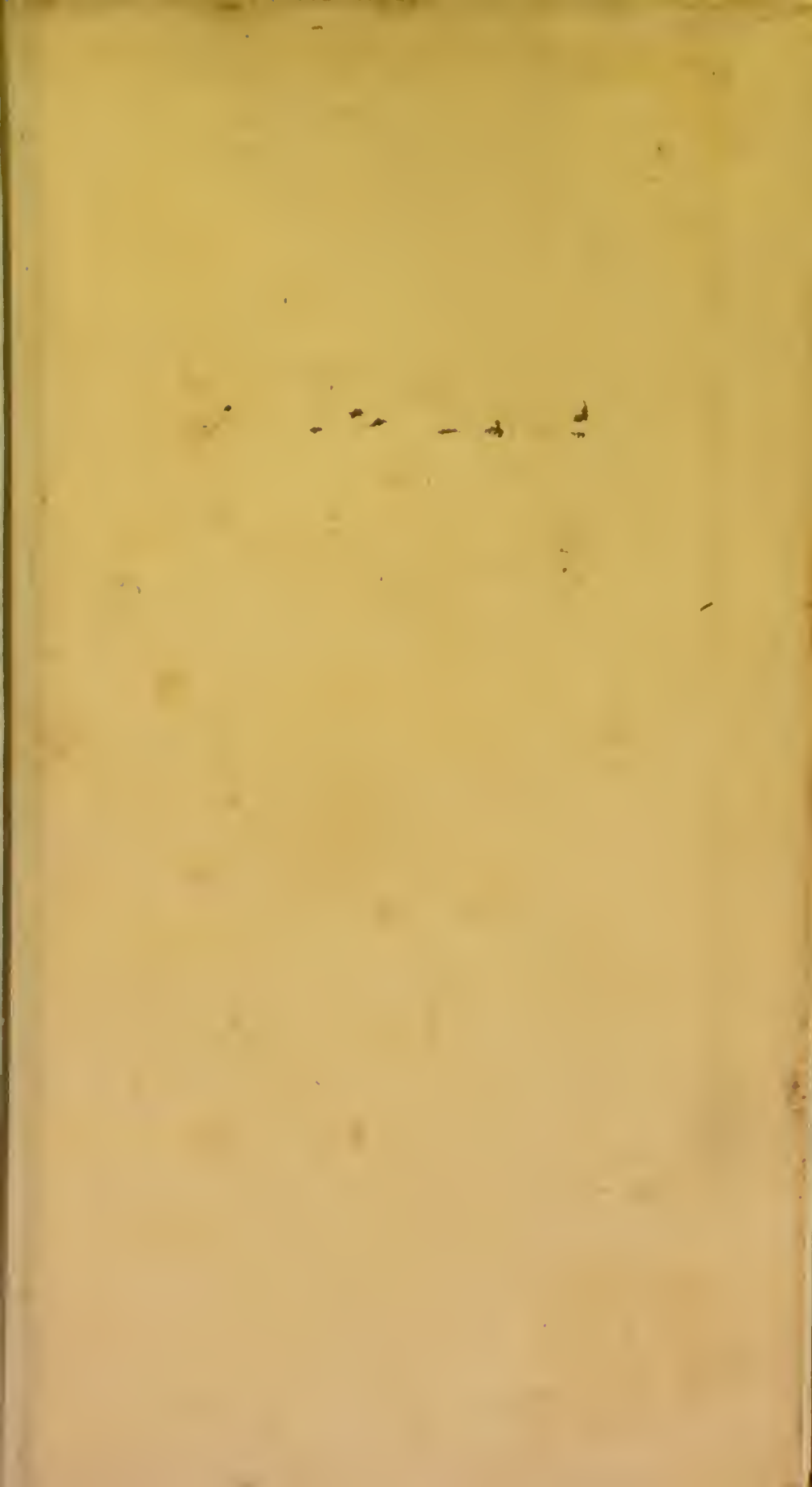
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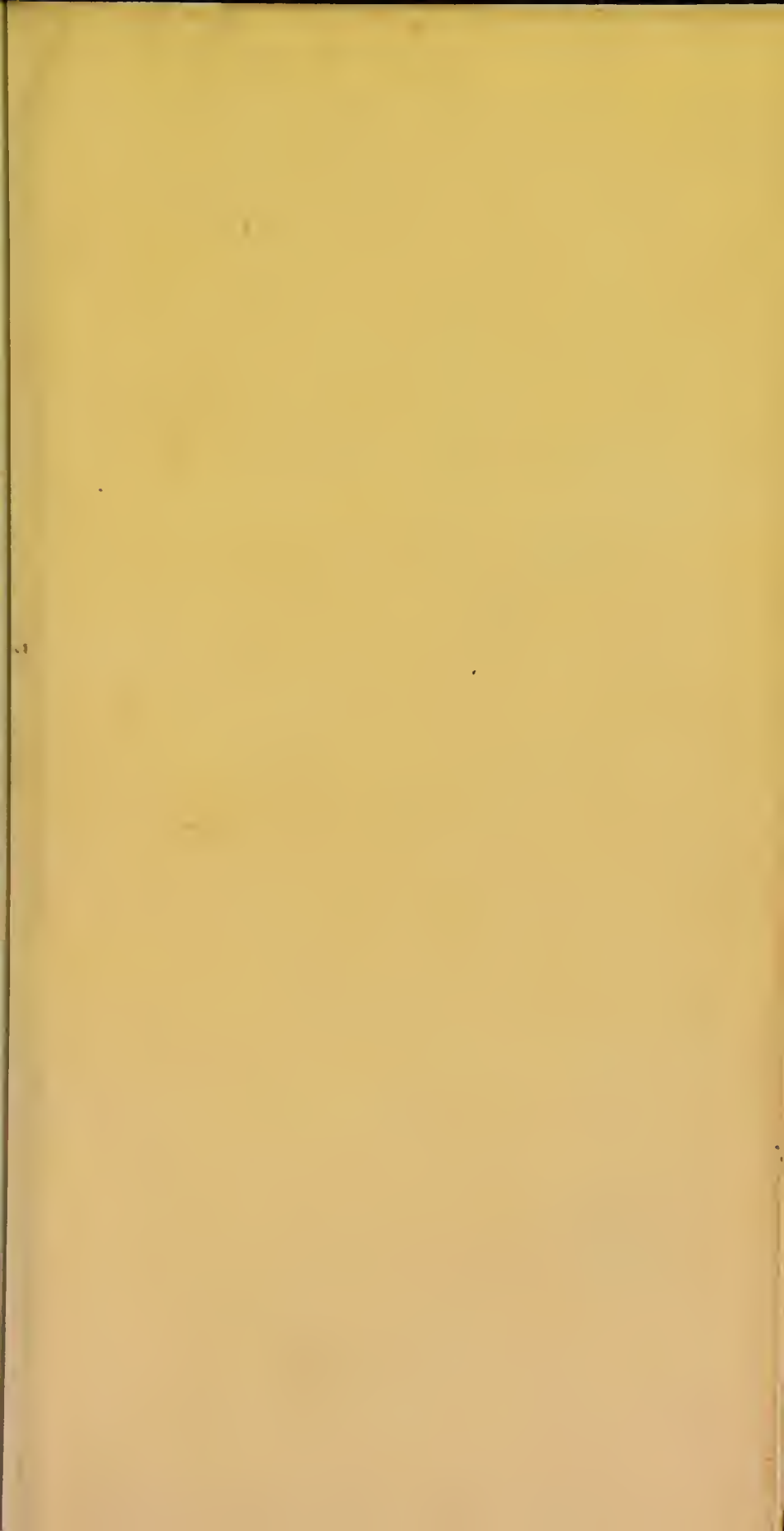
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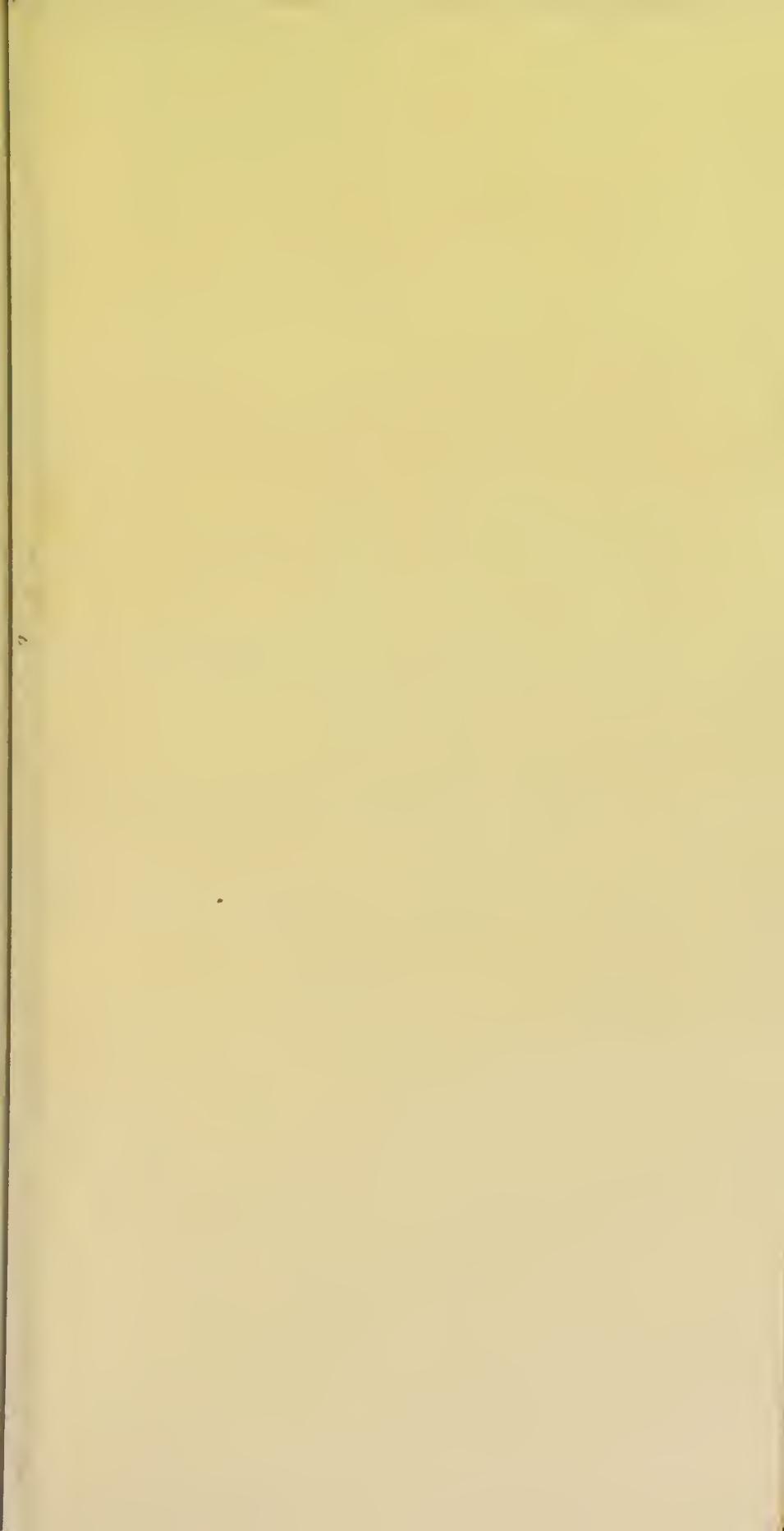
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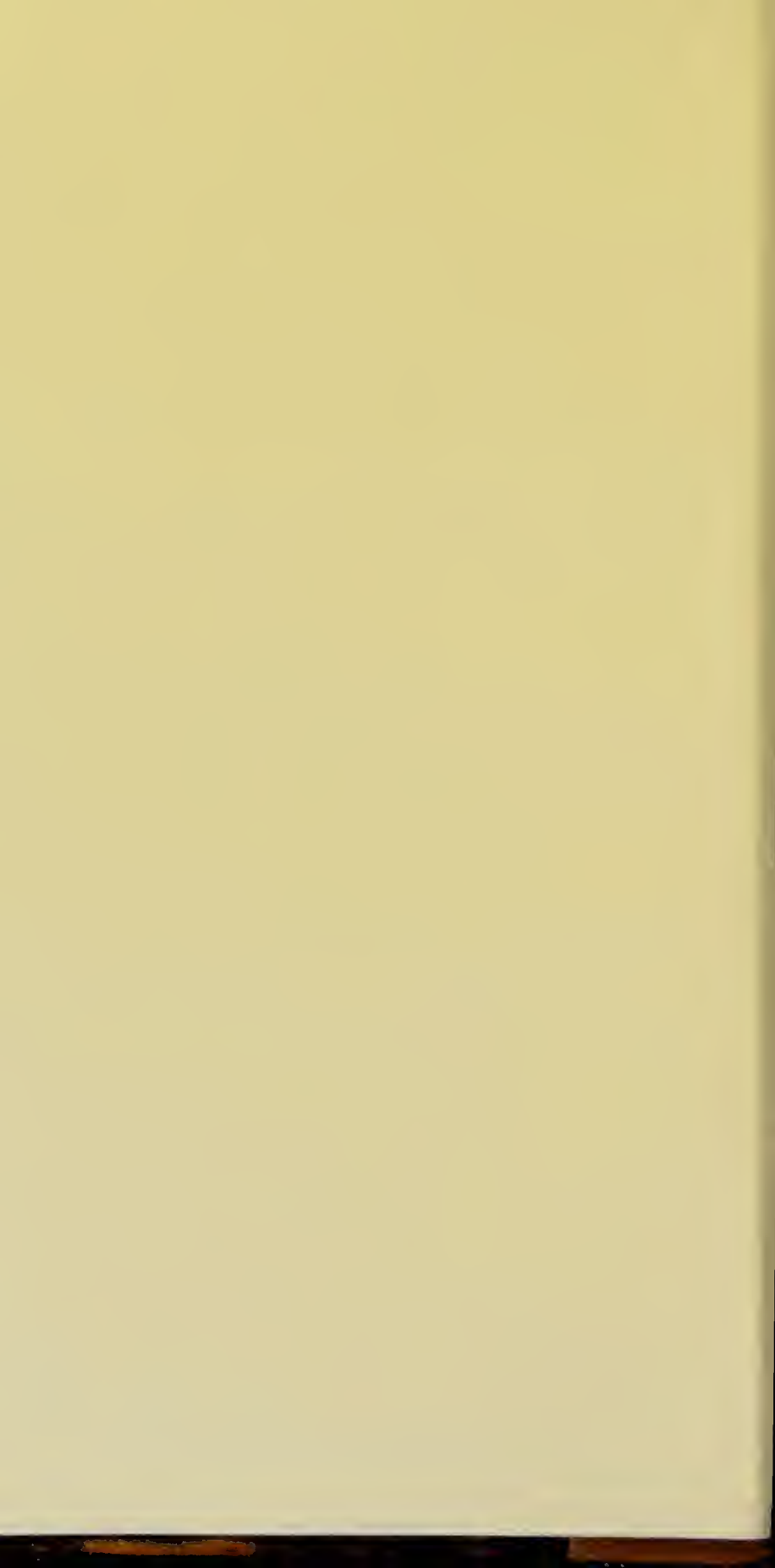












A
MEDICAL GUIDE

FOR

THE INVALID

TO THE

PRINCIPAL WATERING PLACES

OF

GREAT BRITAIN.



A
MEDICAL GUIDE
FOR
THE INVALID
TO THE
PRINCIPAL WATERING PLACES

OF
GREAT BRITAIN;

CONTAINING A VIEW OF

THE MEDICINAL EFFECTS OF WATER,

1. As applied to the Body in its simple State.
2. As exhibited in its impregnated or Mineral Form.
3. As employed in this Form for the Cure of particular Diseases, with their Modes of Treatment, and
4. As assisted in its Effects by the Situation and Climate of the Watering-places resorted to.

By WILLIAM NISBET, M. D.

FELLOW OF THE ROYAL COLLEGE OF EDINBURGH,
MEMBER OF THE DIFFERENT MEDICAL SOCIETIES,
Esq. &c.

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TO
GEORGE HIBBERT, Esq.

SIR,

IN addressing the present work to you, I do it from those motives of respect and deference which your conduct so justly claims, in shewing itself at all times alive, equally to the dictates of humanity and to the best interests of science. As I had a particular opportunity of experiencing this part of your character some time ago, I have been anxious since then to have an opportunity of publicly acknowledging it.

Accept then this tribute of esteem, and believe me,

SIR,

Your most obedient,

humble servant,

THE AUTHOR.

P R E F A C E .

THE resort to watering-places, which is annually become so fashionable, renders the use of mineral waters a subject of the first importance; and as they are generally drank by most of those who go there, whether they are ailing or not, it is proper every one should so far be able to judge of their nature, as to prevent him from injuring himself by their improper application. On this subject no popular work has yet appeared; for the very able and judicious treatise of Dr. Saunders is directed rather more to the profession than to the public, nor has the doctor descended to the treatment of particular diseases on the principles of mineral waters, so as to enable a reader to act entirely for himself. From Dr. Saunders's work we have selected freely the most valuable parts, and it would be

underrating it extremely if we had not done so ; for nothing on the different divisions of the subject could be offered so eligible. In the same manner as he has done, we have considered the subject in a general view, by first tracing the effects of water in its simple state as used for the purposes of diet, and as even applied in this state with a medical view. With this introduction we have entered upon a detail of this element in its compound or mineral form, and taken a particular view of the principal mineral waters, and their general effects in the cure of disease. With this general knowledge of the subject previously exhibited, we come prepared to enter upon the treatment of particular diseases, a part of the subject hitherto much neglected, and on which we have at times offered ideas somewhat new, but such as we hope are sanctioned by facts and experience. It is no doubt to this part the attention of the invalid will chiefly be directed, and if we have been able to point him aright, to soothe the agony of his complaints, or assist him to a more successful mode of cure, the trouble bestowed on this work

work we shall esteem amply compensated. The last part is employed in summing up the preceding parts of the subject in a short compass, and making farther observations on the climate and situation of the different watering-places, which could not enter so properly into the former divisions of the work; and in introducing a short account of the inferior watering-places, the bare recital of which is sufficient. In this last part we have been assisted with materials from the Guide to the Watering-places of Great Britain;* a work, which no traveller, or man of pleasure, who makes a summer excursion, should be without, and which will amply gratify him in its perusal by the variety of subjects it embraces.

To the present publication we were also induced by another consideration. On the topic of water and mineral waters we had occasion to touch slightly in several other works, as in the Treatise on Diet, and in the Edinburgh School of Medicine; we were anxious, therefore, in some degree, to complete the

* Published by Mr. Phillips, St. Paul's Church-yard.

subject, so as to form a system of practical medicine, in so far as the application of this element extends to the preservation of health, and the cure of disease. That the present attempt may be found useful, and incite others to a similar undertaking, who have more leisure and abilities, is our sincere wish. In the mean time, in the words of Horace, we shall only add,

HIS UTERE MECUM.

London, Sept. 24, 1804.

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INTRODUCTION.

THE consideration of water forms one of the most important subjects in medicine. This body, so universally diffused, was long considered as of a simple or elementary nature; but modern chemistry has detected its composition, and unfolded its principles. The knowledge of these is of little use in the present view, any farther than to know that this fluid enters largely into the composition of animal bodies; that its presence is essential to their very existence, and the due performance of their functions; and therefore, in order to a proper state of health being preserved by it, it is necessary it should be received into the body in a pure and untainted form, free from impregnations that may introduce the seeds of corruption and disease. Hence water, when pure,

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may

may be known by being tasteless, inodorous, colourless, and transparent ; and if subjected to a nicer criterion, or weighed, it should be eight hundred and fifty times heavier than air. So universal is the diffusion of this fluid in nature, that the ancient philosophers supposed all things were derived from water, and they must have had a very extensive view of the operations of nature, for the dew, the clouds, the rain, the snow, and other meteors, all consist of water, and the numerous tribes of animals and vegetables all arise out of it. When water is taken away, nothing remains but the solid parts of the globe. But even these shew that the water has been, at least, the agent employed to arrange and dispose them into their present condition, into the regular disposition of the materials of which we find them formed, into extensive beds, parallel to one another. Thus the arrangement is the consequence of the disposition of the materials from water, and we are still more truly fixed in this opinion, when we reflect upon the numerous relicts of the productions of water and of the sea which are found in these strata. Hence it has
even

even been attempted to be proved, that water furnished the materials itself.

Water, from its strong solvent powers, is very seldom presented in a state entirely pure, or agreeing with the description given of it; and from the admixture it receives, it becomes, as we observed, more or less wholesome to the human body.

The most common division of water for domestic uses, is into hard and soft. A water is said to be hard when it will not dissolve soap, but renders the surface of the soap more greasy, and when it is a long time before any of the soap can be dissolved, which rises in the form of a greasy scum. Such a water is unfit for boiling vegetables, and it depends on a portion of acid set loose, which acts upon the alkali of the soap. Soft water, again, is the opposite of this, or possesses admixture in such a slight degree, as not to show any of these effects.

From a comparison of different waters, which are reckoned good, it would appear that water is not

reckoned hard if it contains less than ten grains in the pound weight of these extraneous materials. If it contains that quantity, or a little more, it possesses the qualities of hard water.

With these preliminary observations we shall now examine the use of this fluid as an article of diet, and then consider its farther importance as a remedy in disease.

MEDICAL GUIDE.

CHAP. I.

INTERNAL USE OF WATER.

WATER enters largely, we have observed, as a constituent part into all animal and vegetable bodies. It forms the solvent or basis of all the fluids of every living and organized texture. Its proportion in the animal fluids is rated at nearly three quarters, or as 90 to 128, though this quantity will no doubt vary with the circumstances of the health of the animal. It continues also at all times the least animalized part, while circulating in the system. Hence the loss of it is easiest supported, and also most readily repaired. Two of the excretions seem particularly intended for its removal from the system. These are the perspiration and urine. The former, in its natural state, contains nothing but water, with a small proportion of salt, either to the taste or smell, and only under an encreased action, does it acquire seemingly an animalized state, as displayed

by its peculiar odour. In the excretion of urine, the proportion of simple water is also great, and rated at about $\frac{1}{2}\frac{6}{9}$ to $\frac{4}{5}\frac{8}{6}$, though it is more liable to variation, from different circumstances, than the former. Thus water is the principal solvent for all the alimentary matters the body receives, is the basis of all the secretions and excretions it performs, and enters largely as a constituent part into its general fabric.

1. *In Diet.*

The first effect of water we find to be facilitating the process of digestion, by holding in solution, and conveying in a form fit to be acted upon, the materials of solid animal food. Along with this it forms also itself a necessary aliment, and retains the due proportion of solid and fluid parts, necessary to the preservation and well-being of the system. Dilution, therefore, though not necessary in a great degree in stomachs possessing much activity or tonic power, is highly necessary where the powers are somewhat impaired, as preventing the chemical action of the contents of the stomach on the organ, and as hastening their passage into the intestines. That a certain proportion of it however is required for the due performance of the several secretions and excretions cannot be doubted, and an excess will always be less dangerous than the reverse, especially when we consider that the animal fluids are gradually becoming unfit to remain in the body, and in order to their regular removal they require a timely substitution or supply. To examine the subject however properly, the
nature

nature of the food and state of the stomach deserve to be attended to.

In all cases of thin watery food, it is clear little dilution is required, and where the food is not of a very stimulant kind. Hence vegetable food demands less of this beverage or solvent than animal food. Animal food is also liable sooner to these spontaneous changes which render it unfit to be retained, and its excess of nourishment requires also its quicker exit.

The state of the stomach is an important consideration in the choice of aliment. When weakness prevails in this organ from any cause, dilution is of great consequence, and this dilution should even consist in a previous preparation of the food in the liquid form, so that less action may be required in assimilating it.

2. In Disease.

As a remedy in disease, the use of water is equally important as in health. In acute diseases an excess of solution is always of the first importance. The want of it is peculiarly marked as a characteristic symptom, by the thirst that attends, and it is generally desired of the lowest temperature that can be procured. In dwelling on this subject, therefore, the quantity and temperature are the chief points to be descanted on.

In all cases of acute disease, both solids and fluids are equally affected. The increased force of the solids requires a supply to keep their action from being hurtful, and this supply is best afforded by water, for it also bestows the necessary fund to prevent the morbid state

the fluids are under this action liable to assume. By a proper supply of water the febrile action will be lessened, the process of perspiration restored, and the increased heat connected with its obstruction diminished. Nor is there any danger of that temporary plethora, or fulness, which has alarmed some writers, unless the water is suddenly thrown in, and where of course it acts on the stomach alone. Where large dilution is to take place, it should always be done in divided doses, and its activity should be even increased, or the passage of the fluid accelerated, by its junction with such mild remedies, as will give it a tendency to pass off by the excretions.

The temperature of the diluent is equally important as its quantity, and the degree of cold to which water, either as a drink or a bath, may be carried, is in direct proportion to the degree of animal temperature above the natural standard, and this again is proportioned to the vigour of the body, and to the strength of the disease.

Where the power of the stomach is strong, the degree of cold may be greater, which will increase the force of re-action, relax the extreme vessels, and occasion a freedom of perspiration to ensue, while in order to take advantage of this circumstance, the cold stage of fever should be avoided, and this re-action attempted, during the hot fit. For in the cold stage the dilution should be hot, and in the sweating one, tepid, or of a mild temperature.

In chronic diseases, the use of water is of equal benefit as in the acute, and for this purpose it is necessary

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it should be chosen as soft as possible, and as free from adventitious mixtures. The effects produced by the use of hard water have not been fully ascertained; they have been supposed indeed as the cause of calculous complaints, though this is by no means sufficiently established. In considering water as a drink, we are to judge of it entirely by the degree of its solvent powers; and on this idea, soft water is certainly to be preferred, as all animal, vegetable, and saline matter is easier dissolved by it out of the body than by the other. Indeed, in many instances hard water is known to produce dyspeptic symptoms in them that possess an irritable state of the stomach, particularly women and children.

On these accounts the softer water is to be used as a medicine, and it will be found particularly useful in affections of the stomach and bowels: these complaints originate for the most part in irregularities in diet, particularly from excess. Though abstinence is, in many cases, the proper remedy, yet few patients can be found capable of submitting for any length of time to strong privations of accustomed indulgence. In place of it, therefore, nothing can be substituted so useful as a proper supply of diluents, since they correct the cause from which the disease proceeds, as far as it can be done. The constant and habitual addition of a large quantity of water, in divided doses, is therefore the best prescription that can be offered. It will remove the effect of excess of aliment, as well as its too great stimulus, and

wash off any morbid irritation it leaves behind. Other remedies, it will be also found, are rendered more successful, by being joined with it.

Nor is its temperature in this case to be neglected. In all chronic diseases it should possess a temperature nearly equal to animal heat. Delicate and irritable stomachs require this, in order that the process of digestion may not be interrupted, and the weak action of their stomachs rather impaired: a pain of stomach, the effect of crudities, is often entirely removed by warm water.

The good effects of simple water drinking have been long observed on the duration of life, and water-drinkers have been proverbially regarded as long livers. The permanence of their health, the regularity of their appetites, and the force of their intellectual powers, have all been circumstances taken notice of and descanted on. And in the language of the celebrated Hoffman, of all the productions of nature or art, water comes nearest to that universal remedy so much searched after by mankind, but never discovered.

When a still higher degree of purity and softness in water is wished for than what its natural state admits, it has been proposed to distil it, as the most effectual mode of freeing it of all adventitious admixtures; but in doing this it acquires from the process a disagreeable flavour, which it does not quickly lose. At the same time, when necessary, under certain circumstances, the methodos of purifying it, by boiling, filtering, and distilling,

tilling, should never be lost sight of; and any tendency it may discover to putrescency may be easily removed by the farther addition of an acid, as a small portion of alum, or of quick lime, or of charcoal powder, or vegetable acid; but these additions will be only necessary where it is kept long in a stagnant state, as at sea.

CHAP. II.

USE OF WATER IN FEVER.

AFTER this general view of the internal use of water, both as an article of diet, and a remedy under disease, it is proper to consider it in another point of view, as applied under a certain temperature to counteract the effects of one species of malady of a formidable nature, viz. fever. This subject has been prosecuted with much industry by the ingenious Dr. Currie, of Liverpool, who has collected every fact on the subject, and whose accurate conclusions are given in the following manner.

1. Cold water is not to be used as a drink in the cold stage of the paroxysm of fever, however urgent the thirst. Taken at such times, it increases the chilliness and torpor of the surface and extremities, and produces a sense of coldness in the stomach, augments the oppression on the chest, and renders the pulse more frequent and more feeble. Its effects in all these respects are similar to the affusion of cold water on the skin in the same stage of the paroxysm, though inferior in degree. If the thirst is gratified in the cold stage of the paroxysm, it ought to be with warm liquids.

2. When the hot stage is fairly formed, and the surface is dry and burning, cold water may be drunk with
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the utmost freedom. Frequent draughts of cold liquids at this period are highly grateful; they generally diminish the heat of the surface several degrees, and they lessen the frequency of the pulse. When they are attended with these salutary effects, sensible perspiration and sleep commonly follow.—These effects are similar to those produced by the affusion of cold water on the surface, but inferior in degree also. Though various cases are on record of the paroxysm of fever being dissolved by cold water, drunk in this stage of the disease, my experience does not furnish me with any instance of this kind. Indeed, since I became acquainted with the extraordinary efficacy of the affusion of cold water on the surface, I have not trusted the solution of the paroxysm to its internal use. I have, however, employed cold drink when necessary as an auxiliary. Throughout the hot stage of the paroxysm cold water may be safely drunk, and *more freely in proportion as the heat is farther advanced above the natural standard*. It may even be drunk in the beginning of the sweating stage, though more sparingly. Its cautious use at this time will promote the flow of the sensible perspiration, which after it has commenced, seems often to be retarded by a fresh increase of animal heat. A draught of cold water taken under such circumstances will often reduce the heat to the standard at which perspiration flows more freely, and thus bring the paroxysm to a speedier issue.

3. But after the sensible perspiration has become general and profuse, the use of cold drink is strictly to be forbidden.

forbidden. At this time I have perceived in more than one instance, an inconsiderable draught of cold water produce a sudden chilliness both on the surface and at the stomach, with great sense of debility, and much oppression and irregularity of respiration. At such times, on applying the thermometer to the surface, the heat has been found suddenly and greatly reduced. The proper remedy is to apply a bladder filled with water, heated from 110° to 120° , to the scrobiculus cordis, or pit of the stomach, and to administer small and frequent doses of tincture of opium. By these means the heat is speedily restored.

That fatal effects have arisen from the use of water under the temperature above described, a variety of cases adduced by authors confirm; and to guard against these effects the above ingenious author has next extended his observations, by inquiring how far the fatal effects proceeding from drinking cold water, not in fever, but in cases where the system has been extremely heated by bodily exertions (of which the records of medicine afford so many instances) are to be explained on the principles already laid down. If they are explicable on these principles, we ought to be able to shew, that they have occurred in situations where the system, after having been much heated and enfeebled by severe exertions, is losing its preternatural heat from profuse sweating, and in general also from the cessation of the exertions by which this heat was originally produced. Here two powerful causes combine to cool the body, and if under their operation, a sudden application of cold is made
either

either to the stomach or the surface, the living power will, we know, resist it faintly, and the fatal consequences be accounted for.

Thus three circumstances, he observes, generally concur to produce disease or death from drinking cold water. 1. The patient is extremely warm. 2. The water is extremely cold. And 3. A large quantity of it is suddenly taken into the body.

The method of treating this disease is chiefly by the use of laudanum, and the application of heat. The doses of the former, as in other cases of spasm, should be proportioned to the violence of the disease. From a tea-spoonful, to near a table-spoonful, has been given in some instances before relief has been obtained. Where the powers of life appear to be suddenly suspended, the same remedies should be used which have been so successfully employed in recovering persons supposed to be dead from drowning. The application of a bladder filled with water, heated to 110° or 115° of Fahrenheit, to the pit of the stomach, has produced powerful effects in restoring the vital heat.

The conclusion to be drawn therefore is, that there is no situation in which the application of cold to the stomach is so safe, or in general so salutary, as when the heat of the body, from whatever cause, is preternaturally great, provided that the body is not already in a state in which it is rapidly parting with this heat, and no disease has taken place in the general sensibility, or in the structure of any of the parts; and that where the body is preternaturally heated, the degree to which cold
water

water may be drunk, may be always decided by the steadiness of the sensation of heat, and the tenacity with which the preternatural heat is actually retained.

When to profuse perspiration is added a state of rest, it is then that a large draught of cold liquid is especially dangerous. But while the preternatural heat is sustained by continued exertion, cold liquids may be taken in moderate quantities without producing any injurious effects. They may even, I apprehend, be drunk copiously without producing suddenly any fatal effects; but in copious draughts, they are found oppressive to the stomach during exercise, and excite languor, nausea, and sometimes vomiting.

CHAP. III.

EXTERNAL USE OF WATER.

THE external use of water is not less important than the internal use of it, which we have hitherto treated; and this application to the surface of the body, termed bathing, has been employed both for the preservation of health and the cure of disease, among all ages, from time immemorial.

But from the earliest records of antiquity, though bathing seems to have been in general use, for long it was confined entirely to the *cold bath*, and the *hot* one was only employed on extraordinary occasions, or under disease. Among the Celtic nations, bathing was general, and in the use of the warm bath they were earlier than either the Greeks or Romans. But the most universal practice of bathing has always been confined to the eastern nations, and its utility with them has been so great, that bathing has formed an injunction both of their religion and law.

Bathing is used externally as well as internally, under various degrees of temperature, and likewise in a general, or partial manner. Hence various distinctions occur to be made, first, as to its degrees of temperature, and secondly, as to its extent of application. According

to the former it is distinguished into the cold, temperate, and warm, or vapour bath; according to the latter into the shower bath, into different modes of fomentation, and into the air-pump vapour bath. Each of these we shall examine with attention, to mark the proper regulations for their use.

GENERAL BATHING.

1. *Cold Bath.*

The cold bath, the first method of applying bathing, is the form most generally used in this country. It possesses every advantage of cleanliness. It gives firmness and tone to the general habit, but in proportion to these advantages, it is apt to do harm, and it requires more precaution in its use than any of the other forms. To the infirm and weakly, it is often of the greatest benefit, where this weakness is not so great as to prevent the effects of re-action, or that exertion of the powers for the return of heat, which the application of cold for the time suspends. In the strong and robust, by an irregular determination to parts, and of course by producing accumulation in them, its use may be often attended with fatal consequences. Hence where the body is over heated, and also in the plethoric and asthmatic, it has been known to produce the most alarming symptoms. In its use, therefore, proper regulations should be laid down and attended to, and these regulations respect the *time* of using it, the length of its continuance, and the after conduct.

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The most proper time to use the cold bath, is when the body is in its most passive state, and its fluids neither accelerated by the operation of digestion nor by strong exercise. This time is the morning and forenoon. If done at any other time it should be at a proper distance from a full meal.

The length of its continuance should be very short, as its sole effect depends on the immediate and quick impression of the cold, which if continued too long, instead of producing the necessary re-action of the system, and an increased vigour, has the contrary effect. One dip or two at all times should be reckoned sufficient; and it should be applied as it were instantaneously, or by a sudden plunge.

The after conduct consists in the immediate wiping the body as dry as possible, so as by means of friction to assist the necessary glow of heat, or an increased circulation, the effect required.

2. Temperate or Warm Bath.

The simple hot bath is most generally employed in Europe in modern times against disease. Among the Romans, in the latter ages, to such a height did the fondness for warm bathing attain, that it formed a part of diet, and was as familiar as eating or sleep; and in no part was their luxury so much displayed as in the erection and furnishing of their baths. In consequence of this the use of them was frequently carried too far, and instead of being an advantage to health, it sometimes, by relaxing too much, proved a source of disease. The
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use of the warm bath, however, is one of the greatest auxiliaries to the preservation of health ; its heat should never exceed that of the body, or ninety-six degrees. By this moderate application of its stimulus, it conveys a vigour and activity to the system, and communicates also an equability of temperature to the whole frame ; even where heat and fever have been present, it reduces the pulse to its natural state. On this account, in all cases of over exertion, or fatigue, it is attended with the best effects. By its softening powers, the growth and formation of the body is promoted, and that rigidity in which age consists retarded. Hence youth is prolonged by it, the period and infirmities of age, if not prevented, are at least kept back to a later day, and the surface in particular preserved in that soft, delicate, and pliant laxity, which gives an agreeableness of feeling, and a general increased animation to the whole frame. With respect to disease again, it is particularly calculated in all cases, where an acrid state of the fluids, a dry fibre, or spasmodic state of the nervous system prevail. In its use some caution should be observed at first, especially where the habit is full, or where a tendency to breast complaints is noticed. The application of its temperature should be gradual, and the employing it not too frequent, till custom has reconciled the system to its full effect.

3. *Vapour Bath.*

The vapour bath is generally employed against disease. It consists in receiving the steams of warm water on the whole, or particular parts of the body. This is a remedy

medy much employed in savage life, particularly among the Indians in America. By this means, as their diseases are mostly of an acute nature, an immediate crisis is given them through the skin; and there is no doubt that in the diseases of a variable climate, which are so much occasioned by a loss of balance, in the equilibrium between the external and internal parts, this powerful means of restoring the regularity of circulation, and reducing the unequal temperature of a part, cannot fail to prove most effectual.

But the best manner of conducting the vapour bath, to give its full influence, is among the Turks, of which an account is given by Mr. Savary in those of Cairo. The application of it, by his description, takes place in the most gentle and regular way. The temperature increases as you proceed to the bath itself, and when there, you are freely exposed to its effects till a gentle moisture is diffused over the whole body. When it is brought to this point, an assistant gives a certain pliancy and flexibility to every part, and then detaches every excrementitious particle from the surface by the operation of friction, so that the skin is reduced to the most smooth and natural state. This is succeeded by unction to a certain degree. This unction is again washed off, either with warm or cold water, as you incline. The body is now wrapped up in warm linen, and leaving this excess of temperature you are conducted to bed in a cooler apartment. Here also some degree of friction is applied to the skin, so as thoroughly to dry it, after which you dress and the operation is finished.

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The rapturous terms in which Mr. Savary describes his feelings after the operation, gives us a high opinion of its animating effects. Perfectly regenerated, one experiences, according to his expressions, "universal comfort;" the blood circulates with freedom, and feels as if disengaged from an enormous weight, together with a suppleness, and brightness to which one has been hitherto a stranger. A lively sentiment of existence diffuses itself to the very extremities of the body. Whilst it is lost in delicate sensations, the soul, sympathizing with the delight, enjoys the most agreeable ideas. The imagination wandering over the universe, which it embellishes, sees on every side the most enchanting picture, every where the image of happiness. If life be nothing but the succession of our ideas, the rapidity with which they then recur to the memory, the vigour with which the mind runs over the extended chain of them, would induce a belief that in the two hours that succeeds the bath one has lived a number of years.

PARTIAL BATHING.

From general we now come to a more circumscribed external use of water, or its partial application to particular parts, under the different modifications of temperature already described.

1. *Shower Bath.*

The first of these modes of topical application is the shower bath, as the use of the cold bath by full immersion is often a dangerous remedy. Hence its partial application by means of what is termed the shower bath
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is now more frequent. This consists in the water descending from a machine, placed above him, upon the head of the person, and thence falling over the other parts of the body. By this method the application can be regulated at pleasure, both with respect to its exact continuance and temperature, and as the superior parts of the body receive the first shock, all the bad consequences arising from the common manner of using it are avoided.

As the impression of cold instantaneously conveyed, is the cause of the benefit derived from this application, physicians to avoid the inconveniences of water have wished to substitute a different fluid for the same purpose. Hence the *air bath* has been lately introduced. The exposing of the naked body, however, to a cold air will not be found to produce the same advantage as its exposure to water.

2. *Fomentation.*

The second species of topical bath, or the fomentation, has been very generally employed in cases of pain, inflammation, and swelling, and it has been rendered more powerful by different additions of narcotic, aromatic, or emollient herbs, which give it a medicated quality, and convey the idea to the person's mind, that something useful is derived from these ingredients. But the relaxing power of the fluid itself, and its increased temperature, are the only efficient powers, and in conducting it these circumstances claim attention alone. The fomentation, in order to prove useful, is best conducted by applying the heated fluid through the
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medium of woollen. One or more flannel cloths being prepared, they are to be immersed in the hot water, then part of the fluid wrung out, and in this state one cloth is to be applied on the part, and continued so long as its increased temperature is preserved. When this comes to decrease, another cloth of the former increased temperature is to give place to it, and the same mode successively adopted till relief is obtained.

The partial application of the warm bath may be also here noticed, by bathing the feet in acute diseases where the head is much affected, and where a determination to the lower parts is wanted. In doing this, attention should be paid to preserve the bath of the proper temperature, and that the rest of the body be not unguardedly exposed during the operation. When the same bath is extended half way up the body, termed the semicupium, it differs little in its effect from full immersion, and in this form it is usefully applied in diseases of the bladder, and under part of the belly, where there is much inflammation and pain.

3. *Air Pump Vapour Bath.*

The last species of topical bath, and the most powerful, is that of steam, as conveyed in the most successful manner by the air-pump vapour bath. This is the invention of Mr. Smith, of Brighton, and has been particularly attended to, and its effects also described by my ingenious friend Dr. Blegborough. It “proceeds entirely on the principle of the cupping glass. The air is first exhausted by it, and the fomentation afterwards applied.

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The apparatus at present is chiefly constructed for application in diseases of the extremities, particularly scrophulous, gouty, and rheumatic affections. Each application of the apparatus in general takes up somewhat more than an hour, that is, the fomentation occupies three, and the exhaustion one quarter of that hour, or a little more. The approach of pain is the criterion which determines the sufficiency of the exhaustion: but this and other matters must be regulated by the discretion of the practitioner, according to the circumstances of each particular case.

Water and air, which till lately were thought simple and undecomposable bodies, are the means by which its powers are put in action. The first is made the vehicle for conveying the matter of heat into the system, for increasing the force of the circulation, for relaxing spasmodic contractions and obstructions; and, at the same time, for giving tone to the vascular system.

The medical uses to which air may be applied, are extensive beyond calculation; whether we consider its application with regard to the circumstances of temperature, or of the increase or diminution of its natural pressure.

Dr. Home, of Edinburgh, advantageously used dry cupping, by applying glasses to the breast in hæmoptoe and vomitings; and Mr. Blizard, of the London Hospital, has employed it successfully with the view of determining from parts of *more*, to those of *less* consequence in the animal economy.

The removal of atmospheric pressure must produce
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powerful effects ; and the air-pump vapour bath is certainly the most powerful agent of the kind that has yet been used. How far the increase of that pressure by condensation may be used with benefit, I have yet to learn ; but surely it affords room for investigation.

Mode of using Bathing as a Preservative of Health.

From these general observations on bathing and its different forms, we are led to consider its application as a preservative, in particular to the health of the surface.

The morbid state of constitution that attends modern life is characterised by an excess of sensibility, and this excess produces a weakness in the exercise of the functions, particularly in the discharge of the excretions, that renders the general health liable to be affected by the slightest interruption of them. This is more conspicuously the case in the excretion by the skin, as being the most copious, and discharging, upon an average, no less than three pounds of fluids daily. To preserve, therefore, a proper state of health in this organ, its regular discharge should at all times be elicited by a constant use of the bath. In winter, in this climate, the warm bath should be always preferred, or that brought to the degree of 96 or 98. In spring again, it should yield to the tepid, or lukewarm bath, by reducing it to 80, or at most 85. And in summer the cold one will be most suitable, and contribute to the same general benefit, by producing that re-action, which the excess of heat then demands,
and

and the degree of its temperature may be rated from 32 to 60, or 65. By these different changes, the leading object will be obtained of animating and exciting the system in general, as well as of producing the particular effect intended on the surface. No improvement of the police is so much to be wished for, as the erection of public baths, where the lower classes of the community could have the benefit of this plan of treatment now recommended. We should then see many of these constitutional diseases so frequent in this country, and the effect of our variable climate, greatly decrease, if not entirely disappear. The increasing glandular affections, the numerous defædations of the skin, are all but the consequences of a weakened habit and suppressed excretion; which a free action of surface would lessen, if not completely remove.

Nor should the use of the bath alone, as we have recommended, be deemed a sufficient treatment to produce the full effect: it should be succeeded by some soft unctuous substance, gently extended over the whole surface; and this again should be carefully removed, except such portion of it as may be absorbed by a gentle and continued friction during its application.

CHAP. IV.

RECAPITULATION OF THE GENERAL EFFECTS OF THE
EXTERNAL USE OF WATER.

AFTER this general view of bathing, or the application of water to the external surface, it is proper to consider its leading effects as a remedy in the cure of disease.

By cold bathing is properly understood the application of water to the surface or skin, in a temperature much below that of the animal heat, and in this degree it is an agent capable of producing very powerful effects on the system, and from the temperature alone these effects of it arise.

The salutary effects of cold bathing consist entirely in 1. The power of re-action the system possesses, or in the degree of returning warmth which succeeds the first shock or sensation of cold. Beyond this period it should never be continued, whether used in health, or as a remedy against disease. This requires to be particularly kept in view, as from the power of water in conducting heat, a continuance in this cold medium for any time rapidly exhausts the powers of life.

The exertion of swimming strongly exemplifies this fact, which in this climate can be employed only for a very short time, while in the warmer climates, where an increased

increased temperature of this medium prevails, no such debilitating effect is experienced from it.

2. Peculiar habit or constitution, especially of the surface, has at times a material influence on the application of this power. Thus the effect from the degree of temperature and the state of constitution will be counteracted by it, and this is strongly displayed in the attendants of cold and sea baths, who remain for hours under its impression without feeling any hurtful consequences from the diminished temperature.

3. Sympathy between the external and internal surface, is also another circumstance that regulates the effect of the cold bath. In the delicate and irritable, this sympathy produces the most uneasy sensations when the water reaches the level of the stomach; and in order that it may be endured, every precaution must be taken to render the first impression in such cases as slight as possible, till a full immersion has taken place.

The changes conspicuous in the pulse deserve also to be noticed. An irregularity and quickness frequently ensue, previous to the immersion; when the latter has taken place, the pulse becomes slow, regular, and in general small, and this continues, and even increases, so long as the immersion is persevered in.

The morbid affections to which this remedy is applicable are numerous. Late experience has proved its success, as we have stated, in the case of fever; and as an excess of heat and diminished perspiration are the leading symptoms of this disease, its application, under

judicious regulations, cannot fail to be of the most sovereign efficacy in counteracting these symptoms.

The chief regulations to be attended to are,

1. That the heat be steadily above the natural standard.

2. That it be applied during the hot stage, and when no chillness prevails, and

3. That there be no tendency to perspiration, as shewing a relaxed, weakened state of surface.

The success of this means of cure, is displayed by a copious and general discharge by the skin, attended with a reduction of the febrile heat, and of the strong marks of the re-action of the system.

In chronic diseases the use of this remedy requires even more caution than in the acute, and here it is its tonic power alone that is called for. The chronic diseases in which it succeeds are these, of simple weakness, languor, or nervous relaxation, where no permanent obstruction of any part or visceral disease is present. In these, if the degree of temperature is proportioned to the power of re-action the constitution possesses, the best effects will follow this remedy.

The tepid bath, the second external form of this application, is not so common in this country as the cold one. By it is understood every degree of temperature above 92, which the skin can bear. It is a safer remedy than the cold bath, and is particularly adapted to weak and irritable constitutions, whom the shock produced by cold immersion would overpower, and who also have not the vigour of habit necessary to re-action.

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The diseases to which this form is beneficial, are equally numerous as the other. To complaints of the stomach and bowels it is well adapted, and colic and intestinal obstructions are powerfully relieved by it. Nor has it less influence in affections of the skin. Where the perspiration is checked, or any organic derangement produced, in consequence of its relaxing influence, if not curing, it prepares the way for the use of remedies with success. In the diseases of children it forms a useful and safe application, as the sympathy between the skin and alimentary canal prevails in them in a high degree, and diseases in them are generally lodged in this last situation. In all diseases attended with a loss of nervous energy, it forms a remedy of the first importance. Hence its utility in palsy, and all the modifications of this malady.

These form a few hints on the general application of water, both externally and internally, to the human body ; in health, as a solvent and constituent part of the system ; in disease, as a remedy powerful in removing irritation and obstruction, especially where confined to the first passages.

PART II.

MINERAL WATERS, OR WATER IN ITS COM-
POUND AND IMPREGNATED STATE.

CHAP. I.

GENERAL CONSIDERATION OF MINERAL WATERS.

WATER we have hitherto examined in its simple or pure state, as employed for domestic uses; and its utility even in this state to the preservation of health, the prevention of disease, and the actual cure of the latter, has been strongly enforced. One fact, indeed, on this subject cannot be too often repeated, that long life is the usual attendant of those who confine themselves solely to this beverage. We now enter upon it in a different point of view, as receiving from its highly solvent powers various impregnations in its passage through the bowels of the earth; for few bodies, we find, are exempt from its action. It absorbs small quantities of the simple gases (or airs), and is also dissolved by them,

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nor can they be entirely freed from it. Hence its strong attraction for oxygen on every occasion. It absorbs also atmospheric air, from which it becomes sparkling, and is rendered also lighter on the stomach. But its impregnations with the mineral kingdom are mostly employed for the purposes of medicine, and mineral waters, the term distinguishing such impregnations, may be divided into the hot and cold springs. Between these there is no very precise limit. We find springs of all the different degrees of heat from 48 to boiling water ; but those not sensibly exceeding 53 are reckoned cold springs, and all the rest hot ones.

By means of these impregnations water is rendered still more powerful as a remedy for the cure of disease, and in this state is presented as a medicine ready formed by the hand of nature, the composition of which, though detected by the industry and ingenuity of mankind in their scientific researches, yet cannot altogether be imitated with the same utility, nor employed with the same success as in the natural state. Hence, although the quantity of medicine such impregnated waters suspend is small, yet from the manner in which it is diffused, the activity of its powers is much increased by the more extended surface to which it is applied; and its impregnation is presented in a form which medicine cannot otherwise so easily convey. This is evident from the complicated nature of the several impregnations. But the gaseous products appear the most useful parts of mineral waters, and their application in mineral waters is principally to the stomach. Hence the sudden relief

they generally give to this organ, and hence their great advantage in all its complaints. By the temperature of the stomach their principles are unfolded in it, and they act with powers of which we can out of the body form no judgment, and thus the unexpected cures so frequently met with from their use. That their effects on the system at large, as well as on the stomach, are considerable, cannot however be denied, and this appears proved by the sulphurated hydrogen which is smelt under a course of these waters. Every circumstance indeed shews that mineral waters are a mode of combination of the powers of medicine, in a manner superior to what can be accounted for from their known ingredients, and a mode of exhibiting medicine, which is therefore superior to every other in most chronic diseases. All the carbonated chalybeates are much increased in their powers by their height of temperature; and of all solvents the carbonic acid, or fixed air, seems the most proper for this mineral. The same takes place in the sulphurated waters with respect to temperature; by increasing it, their powers are rendered much more active. This effect is less conspicuous in the saline waters, which depend more on dilution than temperature.

The impregnations which water thus receives consist of various saline, metallic, and earthy parts, and the different proportions of such materials has given occasion to various arrangements of medicinal or mineral waters but the arrangement is to be made from the predominance of one particular ingredient. Thus they have been

been divided into the *acidulous*, *saline*, *sulphureous*, and *chalybeate* waters.

Acidulous Waters.

The first division, or the acidulous waters, are known by their briskness and pungent acidulous taste. They boil with facility, and afford bubbles by simple agitation. They redden also the tincture of turnsole, and precipitate lime water, and alkaline sulphurs. This quality, however, they discover becomes very soon lost, the carbonic gas, or fixed air, flies off, and they are preserved in perfection with great difficulty.

All such waters, besides this predominance of fixed air, possess also always more or less of an alkali, and calcareous earth; and from these ingredients they are found to acquire various degrees of temperature; hence they have been divided into two orders, of the cold acidulous, and alkaline waters, and of the hot or thermal, acidulous, and alkaline waters.

Saline Waters.

The second class are those waters in which a neutral salt is most conspicuous, and this they show by acting strongly on the human body as a purge. They are to be regarded, therefore, as salts suspended by a natural solution. The salts most commonly found in such waters, are the Epsom salt, the marine salt, and calcareous and magnesian muriates; but the proportion and number of these vary so much, that they admit no distinct arrangement.

Sulphureous Waters.

The third class comprehends the sulphureous waters, or those which discover sulphur to the smell, and also have the property of discolouring silver. This substance is found to exist in them in two states, either in the form of sulphurated hydrogen gas, or in a solution of alkaline or calcareous sulphur, and they may be divided into two orders corresponding to these different states.

Chalybeate Waters.

This class is the most numerous of all the mineral waters, and in it the ferruginous principle, or iron, predominates. From the manner, however, in which this solution takes place, ferruginous waters are divided into three orders: 1st, The martial acidulous, in which the mineral is dissolved by the carbonic acid; 2d, the simple martial, in which no excess of acidity prevails to detect this solvent; and, 3d, the sulphureous martial, in which is contained the sulphate of iron. The impregnations of this class are not confined to the mere solution of iron, but they possess also an admixture of calcareous and saline matter, though their principal medicinal property depends on the iron.

Tests of Mineral Waters of these different Classes.

To enable every one to judge somewhat for himself of the predominant impregnations which each water contains, we shall enumerate the most simple and ordinary tests by which they are known, and by which the detection of this predominant matter is made.

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1. The first division, or acidulous waters, are detected by an infusion of turnsole, which turns the water red, and afterwards, when boiled, returns it to blue, or by paper stained in turnsole, which is reddened when wet, but becomes blue when dry.

2. Saline waters are discovered by turning syrup of violets green, which thus shews the presence of an alkali, and calcareous earth is detected by a solution of lead in nitrous acid, which the water immediately precipitates, so as to produce a muddiness.

3. Sulphureous waters are known by turning infusion of turnsole red, and by blackening polished metals.

4. Chalybeate waters are distinguished by blackening infusion of galls, and the dissolving acid is ascertained by observing whether it produces its effect before or after boiling.

CHAP. II.

PARTICULAR MINERAL WATERS.

FROM this general view we come to enter upon the consideration of the most noted examples of the first class, or acidulous waters in Britain.

MALVERN WATER.

Malvern in Worcestershire, is at the distance of 120 miles from London. The situation of this water is in a part of the country well adapted, from the salubrity of its atmosphere and the beautiful and picturesque views which its chain of hills affords, for invalids. It is a climate well suited, in the summer and autumnal months, for the residence of consumptive patients, and for the relief of those nervous affections which are the consequence of a sedentary life in town; and here patients have an opportunity of enjoying an extensive range of country, dry, elevated, and healthful; the soil, being chiefly limestone, has an additional inducement to the relief its medicinal waters promise.

Spring.

The principal spring, situated two miles from the village of Great Malvern, at which place patients commonly reside, is termed, by way of eminence, the Holy Well. The water of this well when taken up appears at first quite clear and pellucid, which appearance it continues, even on standing, to retain. To the taste it
conveys

conveys a slight but inconsiderable pungency, the only sensible difference betwixt it and common water; and by the tests employed to detect its ingredients, it exhibits only the presence of fixed air, or carbonic acid, with a small proportion of saline and earthy matter. But however small the supposed quantity of these ingredients, the first use of this water is sometimes attended with a nausea or squeamishness at stomach for a day or two, not unfrequently even with giddiness and pain of head immediately on drinking it. These symptoms evidently arise from the extrication of the fixed air in the stomach, and the quantity taken at first must be regulated entirely by this circumstance. Such symptoms will be easily removed by a purgative, should the water itself not have this effect, which it will commonly have where malt liquors have not been much used by the patients who drink it.

Powers of the Water.

The powers of this water are displayed by a recovered appetite and flow of spirits where it agrees, and its usual effect is to pass off by an increased flow of urine, for it is only for a few days it is apt to run to the bowels.

Diseases to which applied.

The chief diseases which have rendered this water celebrated, are scrofulous and cutaneous affections. The former of these it is known to cure when appearing in the form of ulcerations, and clothes dipped in it are applied to the sores externally, and removed as they are dry; as well as the water drank as an internal remedy. The long continued scrofulous inflammation of the eyes experiences

experiences from it the same relief, applied in a similar manner. The cutaneous eruptions, in which it is most successful, are those in irritable inflammatory habits, where the skin feels hard, dry, and inclined to crack, with some appearance of watery vesicles. Its effect is to render it soft and perspirable in a short time, though the irritation and pain are at first somewhat increased.

The success of this water in external scrofulous affections, has led to its use where the same disease manifests itself internally. Thus it is resorted to in the hectic fever of consumption, and also those morbid affections of the kidneys and bladder, where blood or matter is discharged with the urine.

A course of Malvern water, from its mild nature and the obstinacy of the diseases which form the subject of its application, requires some length of time before completing a cure. Patients should, therefore, meet here early in the season, that their stay may not be unavoidably prolonged till the cold weather sets in.

ST. WINIFRED'S,

In Flintshire, is another spring similar to that of Malvern, possessing a clear, pure, copious water, formerly much frequented, so as to render the town of Holywell, near its situation, a place at that time of much eminence. It is now, however, much deserted as a medicinal spring, though there can be no doubt, where a simple acidulous water is useful, it is equal to any other.

Powers of the Water.

The utility of these more simple springs cannot be doubted, in all cases where water alone is wanted as a
remedy,

remedy, and it is in this way such slight impregnations as these waters possess can act. Hence, to derive full benefit from them three circumstances are essential to be observed: 1. the length of time during which they are drank; 2. the quantity in which they are applied; 3. the regulation of the patient's regimen during this course.

BRISTOL WATER.

A more powerful acidulous mineral is the Bristol hot-well, the history of which is so amply detailed by my respectable friend Dr. Saunders, that I cannot do better than insert the account in his own words. 'This celebrated spring, he observes, is situated at the bottom and southern extremity of St. Vincent's rock, a lofty cliff on the banks of the Avon, on the Gloucestershire side, about a mile below the city of Bristol, and within four of the noble and extensive arm of the sea, known by the name of the Bristol Channel.

The site of Bristol hot-well appears to be one of those choice and favoured spots that are peculiarly calculated for the pleasure and comfort of the invalid. High ridges of dry limestone cliffs shelter it from the bleak north and east winds, and from the boisterous west, which are so frequent and powerful on that side of the kingdom; and it is only open to the south, a quarter in which exposure is the most agreeable. By the lover of picturesque beauty the banks of the Avon have been long cherished, for the whole adjacent country abounds with beautiful scenery and romantic prospects. The fine open downs on the neighbouring hills enjoy a pure
and

and healthful atmosphere, and delightful views of the shores of the Avon, on the one side an abrupt rock, on the other a gentle slope wooded to the water's edge; and in the distance is seen the wide estuary of the Severn in the Bristol Channel.

St. Vincent's rock, from the bottom of which the hot-well springs into day, is composed principally of a hard, compact, and very fine limestone, interspersed with calcareous spar, and also containing those very transparent quartz crystals, formerly much esteemed and known by the name of Bristol stones. This rock is the scene of great business, on account of the large quarries that are hollowed out of its side, whence is procured a fine stone for the purposes of building, and also excellent for being burnt into quick lime, which is consumed to a large extent in the country, and exported in vast quantities to the West Indies, where it is employed in the manufacture of sugar.

Spring.

The hot-well spring is a very fine clear tepid water, so copious as to discharge about forty gallons in a minute. The fresh water is inodorous, perfectly limpid and sparkling, and sends forth numerous air bubbles when poured into a glass. It is very agreeable to the palate, but without having any very decided taste, at least none that can be well distinguished by a common observer. Its specific gravity is only 1.00077, which approaches so near to that of distilled water, that this circumstance alone would shew that it contained but a very small admixture of foreign contents. This water,

as its name imports, is a thermal spring, but one in which the heat is very moderate. The exact temperature is given differently by different observers, which may be partly owing to a slight actual variation in its heat, but principally to a little difference in thermometers. Taking the average of the most accurate observations, it may be reckoned at 74° , and this does not very sensibly vary during winter or summer. A little peculiarity attends this fountain, which requires to be mentioned. The spring tides are known to rise to a remarkable height in the Severn and Avon, and with great rapidity. The hot-well, although considerably higher than the river, is, however, so far affected by a spring tide, as to become thereby in some degree turbid, and is then not thought quite so efficacious. This gives rise to a refinement in practice, in avoiding the medical use of the hot-well during these periods, till by about two hours pumping, the water returns to its original purity.

Bristol water, besides being employed medicinally at the spring head, which is in fact but a small part of its consumption, is used largely at the table at the hot-wells, and for all domestic purposes. Its softness, or freedom from earthy salts, is almost proverbially known; and from its excellent quality of keeping untainted for a great length of time in hot climates, it forms a most valuable water for long voyages, and is accordingly exported in great quantities to distant parts.

The contents of this water have been ascertained at various times by able chemists, and in the modern improved

proved state of chemical analysis, nothing further seems to be required to complete our knowledge of this water; nor does it appear probable that there exists in it any substance which has not been detected, although some difference may arise in estimating the exact quantities of these contents, none of which are in themselves at all uncommon or peculiar to this spring.

Bristol water contains both solid and gaseous matter, and the distinction between the two requires to be attended to, as it is owing to the very small quantity of the former, that it deserves the character of a very pure natural spring; and to an excess in gaseous contents, that it seems to be principally indebted for its medical properties, whatever they may be, independent of those of mere water, with an increase of temperature.

Powers of the Water.

The sensible effects produced by it are, at first, a gentle glow in the stomach succeeded by a slight degree of head-ach and giddiness, which soon go off. By its continued use, the flow of urine is increased, and at the same time the skin is kept more perspirable, and the appetite and general health are improved. The effects of this water on the bowels are by no means constant, but in general a tendency to costiveness arises from their use, and a mild laxative becomes occasionally necessary. In taking them the quantity should be limited, and never carried so far as to produce oppression or weight at the stomach; but the following directions of Dr. Saunders are proper to be attended to. The time recommended for the first dose is before breakfast, as
early

early in the morning as the patient chooses to rise, when it is usual to take two glasses, with about half an hour spent in gentle exercise interposed between them. Two more glasses, with the same interval, are generally given midway between breakfast and dinner, and the water is seldom repeated afterwards in the course of the day. The size of the glass varies from a quarter to half a pint, which last is reckoned a full dose. Three days before and after every full and new moon, the clearness of the water, as has been mentioned, is somewhat disturbed by the spring tides in the Avon, and this causes a little irregularity in the time of using the water, as it requires some hours pumping in order to run clear again.

To produce the full medicinal effects of Bristol water, it should unquestionably be drank at the fountain head; for by carriage, or mere keeping, it loses much of its carbonic acid as well as its temperature, and this last cannot be restored without a further loss of this volatile acid. It still, however, continues to be a pure and excellent water for the table, and is used as such at the hot-wells.

Diseases to which applied.

The Bristol waters have been long celebrated as a powerful remedy in certain diseases, and from their impregnation, and their increased temperature, they have no doubt a good claim to the reputation they have acquired. The diseases to which they have been applied are certainly of very opposite natures, and the same benefit, therefore, cannot be expected in all. Their utility may be comprehended under affections of the
alimentary

alimentary canal, diabetes, and consumption. In those affections of the alimentary canal which arise from a residence in a warm climate, whether attended with bilious symptoms or not, they are eminently useful. The same advantage they display in diarrhœa and slight attacks of dysentery. In diabetes, if not curing, they are at least a serviceable palliative, and give effect to the powers of other remedies. In consumption, there are some authenticated cases of cure where the disease was in its commencement, and the constitution was broken down; but where it has made progress, and hectic symptoms are far advanced, little is to be expected from this mineral, or any other remedy. But even in these deplorable circumstances it will have some palliative influence over the hectic symptoms, and tend to allay the thirst, feverish heat, and other symptoms of increased temperature.

From May to October is the favourite period of the season for the enjoyment of Bristol wells, but the mildness of the climate should always tempt to a longer residence, and on this account it should form the spot for the invalid to spend the winter, if obliged to pass it in Britain.

MATLOCK WATER.

The water of Matlock, in Derbyshire, is another celebrated mineral of this class. Its copious springs issue from a limestone rock not far from the banks of the Derwent, and several of them possess a pretty high temperature, at least considerably above the natural standard, being with little variation at 66.

Powers

Powers of the Water.

This water discovers to the taste little difference from that of a common spring. It shews a transparent clearness without any exhalation or vapour in moderate weather. The quantity of fixed air is also apparently small, for no considerable bubbles arise from it.

From these circumstances, the fineness and temperature of the water, more than its impregnations, are perhaps the chief cause of its virtues; and where water alone is to form a remedy, it is one of the most desirable situations for an invalid to resort to.

Diseases to which applied.

From the temperature of this water it forms a proper tepid bath for the irritable and nervous constitution of debilitated patients, and, after the use of Bath or Buxton, it may be properly made the intermediate step before venturing upon the proper bracing temperature of the sea. By this gradual gradation, and the variety of scene and amusement which such a diversity of residence will afford, the invalid will receive every advantage which the constitution can receive from the proper use of bathing, as well as its internal exhibition.

BUXTON WATER.

The next watering place, or that of Buxton, in Derbyshire, is one of much importance.

The climate about Buxton is mountainous and ungenial. A severe winter and tardy spring distinguishes this part of the country, but the soil is dry, and what is wanting in its temperature to the invalid is made up in part by this circumstance, the air being generally dry
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and clear. Buxton may be considered as the most ancient medicinal spring in Britain, and we have long accounts of it as such than any other.

Powers of the Water.

Buxton water is employed largely both for external and internal use. The analysis of it shews the presence of carbonic acid, but more strongly of azotic gas. To the taste, however, it discovers no sensible qualities different from common water, except in its temperature, by sparkling a little at first when drawn. Its temperature is invariably at 82. Over the spring there hovers a thin steam, which proves to be azotic gas, or vapour, the chief ingredient that gives its medical quality.

Diseases to which applied.

As an internal medicine, Buxton water possesses great activity, and of course success, in the cure of many diseases. In deranged symptoms of stomach and alimentary canal it has been found of great benefit, particularly where these symptoms are the effect of indulgence and high intemperance. Thus a judicious use of it will often relieve the uneasy symptoms of heartburn, flatulency, and sickness; and from a due perseverance in it, an increase of appetite and regularity of the secretions will ensue. On the bowels the waters appear to produce various effects. Not unfrequently a spontaneous diarrhœa comes on from their use for some days, which is attended with beneficial consequences, but costiveness is a more common effect of their operation, especially in sluggish habits. For complaints of the kidneys and bladder these waters have been supposed

posed of sovereign efficacy, and more especially when such complaints are attended with much pain and irritation. They have been recommended in gout; but here they are of mere ambiguous operation, and the chief thing to be studied in this disease is temperature in the use of them. This water has been particularly prohibited in cases of active inflammation, and where a strong determination prevails to the lungs. This arises from the supposed heating qualities of the water, and therefore it is more suited to chronic than acute diseases, to those especially in which there prevails little vascular action.

The directions in the use of the Buxton waters are, to take a third of a pint, or two glasses, in different doses before breakfast, and to repeat the same before dinner, and this course must be long continued to ensure success.

The external use of the Buxton waters as a bath differs in nothing from the common tepid bath. Its temperature is at 82, and it gives, therefore, little or no shock at immersion, while its application is succeeded by a highly glowing and pleasurable sensation over the whole body, rendering it warm and unctuous. It is well suited as a bath to the delicate and irritable, by whom much cold cannot be endured, yet where the degree afforded by the Buxton water is still sufficient to produce that re-action which forms a salutary effort of the constitution. But its use has been more particularly confined to affections of limbs where a loss of action or sensation has taken place. Thus chronic rheumatism is

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much

much benefited by it, and it may afterwards be succeeded by the common bath, or one of a lower temperature.

The principal spring at Buxton is that of St. Ann's well, but there are a number of others which possess all the same qualities, and rise into day through the fissures of calcareous freestone.

BATH WATERS.

Bath waters, in Somersetshire, have been more celebrated than any other British mineral, and in consequence their virtues have been appreciated beyond what they merit. Their distance from the metropolis has rendered them equally the resort of the giddy and the gay, as well as of the invalid, and the pleasures that their situation afford actually renders numbers interested in the preservation of the reputation they have acquired. We shall, however, offer an impartial opinion of their merits.

In point of situation the climate of Bath is highly genial, and fit for the residence of an invalid. The weather, however, is often damp, but luxury has embellished this place with so many refinements, that patients can always command the means of rendering their feelings agreeable when not constantly harassed by the tortures of incurable disease.

The Bath waters, thus celebrated, when first drawn are quite clear and colourless, and remain quiet, without any bubbles or other appearance of effervescence. By standing in the open air the water acquires in some hours a turbidness, and a pale yellow ochry precipitate descends

descends from it. The quantity is small, but tinges linen, and the turbidness continues afterwards, without any further precipitation. No perceptible odour takes place from this water, except when it is in large quantities, then a pungency touches the nose, but neither foetid nor sulphureous. When hot from the pump, the waters fill the mouth with the impression of a chalybeate, but in cooling this is lost, and gives place to the sense of a saline impregnation resembling what is termed hard water. The Bath water is of a hot temperature, and when first drawn is from 112 to 116. Its chief ingredients to which it owes its activity are the carbonic acid, and azotic gas. The principal baths are the Cross and King's bath, and patients generally begin first the use of the former, as being somewhat less stimulant. On account of the high repute of these waters, they have been much resorted to, and they have therefore been more examined and commented on than most others.

Powers of the Water.

This water, when drank fresh from the spring, has in most persons the effect of quickening the pulse, increasing heat, and exciting the secretions. These symptoms ensue soon after its use, and with certain habits continue for a considerable time, an evident proof of its heating nature, and of a peculiar stimulus excited in the nervous system. It possesses also a strong tendency to pass by urine, and by this operation of it, it is supposed to have a salutary tendency. On the bowels its effects are uncertain; but in general a costive habit is the consequence of its use, as of most other remedies whose action

is determined to the kidneys or skin. When proving beneficial, its first effects are to excite there a pleasing glow, soon succeeded by an increase of appetite, exhilarated spirits, and copious urinary discharges. Where the reverse of this ensues, and fever, head-ach, and sickness arise from its use, the continuing it is not advisable. But the external application is often of more service than the internal exhibition, and where it possesses a preference over common water of the same temperature, this may be ascribed to the greater equality of temperature which the natural bath possesses over the artificial, and to the constant aqueous vapour in which the patients are kept immersed.

Diseases to which applied.

The diseases for which this water is had recourse to, are numerous and important, and it is generally drank as well as externally applied. In all cases where a gentle, gradual, and permanent stimulus is required, it is highly proper, particularly where nothing is to be apprehended from the temporary fever it creates. Hence in all active inflammations it is justly condemned. Chronic diseases form in general the field of its successful action; and in none of these is it found more beneficial than in chlorosis, or green sickness, when its external use favours strongly its efficacy as an internal medicine. That debility, the effect of long residence in a warm climate, and which produces obstruction in the biliary secretion, and an impaired state of the functions of the stomach and bowels, receives general relief from a course of the Bath water; and on the same principle jaundice

is often cured by it. That chronic state of weakness also which succeeds constitutional diseases, and is attended with loss of motion, pain, and various nervous symptoms, finds particular benefit from this remedy. Hence it is the general resort of the gouty and rheumatic patients, when tired out with the inefficacy of other medicines; and in this last stage of disease they certainly often derive from this water considerable advantage. In all situations indeed where warm bathing is useful, or where a tepid diluent is beneficial, the Bath waters rate high in estimation; and therefore in cutaneous affections, hypochondriasis, and many other similar maladies, their character has been long established. At all times they require a proper and fair trial, nor till long persevered in can success be expected. This is indeed gradual; and they even require at times an intermission of their use, which should be resumed and occasionally discontinued, as circumstances indicate.

A course of Bath waters taken fully consists in the daily use of a pint and a half to two pints, and that in three doses, two of which are drank before breakfast and the remaining one after. If lying heavy on the stomach, or if they produce much fever, they must be occasionally intermitted. To be successful they require a long continued course, and are not to be rapidly hurried on.

The very high temperature of this mineral certainly gives an activity to its impregnation greater than most others in Britain, and to this circumstance is its virtue to be chiefly ascribed.

The external use of the Bath waters is applied two

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ways, by immersion and by pumping. Immersion is generally preferred in the morning, though with the delicate and irritable this mode should be reversed, and after breakfast, or in the course of the forenoon, will be more proper. Three times a week are supposed a sufficient application if regularly persevered in. Pumping is a mode of applying the bath topically, attended with the happiest consequences. The force of the descending fluid has here an additional stimulation to the natural one of the bath, and it may be repeated with greater freedom and frequency than by any other mode.

GENERAL OBSERVATIONS ON THE ACIDULOUS WATERS.

The waters enumerated are the principal examples of the first class, or acidulous ones in Britain. Their qualities evidently depend on the gaseous impregnation, or carbonic and azotic vapours they contain. Though the quantity of these is apparently small, yet when rendered active by a very high increased temperature, as in those of Buxton and Bath, they acquire very remarkable powers, and no artificial imitation of them which the art of chemistry can supply is found equal in its effects to the virtues of the natural springs. Hence they are only to be drank successfully on the spot, and every advantage should be given, in conducting a course of them, by an attention on the part of the patient to his regimen. All fermented liquors should be avoided by him, and every thing that may tend to decompose the water till it has properly entered the system.

SALINE WATERS.

From the acidulous then we proceed to the second class, or the *Saline Waters*.

The more simple saline waters in Britain are not numerous. Their chief ingredients are the Epsom and glauber salts, and on the impregnation from these their purgative quality depends. They may be considered properly as a mere solution of purging salts diffused in a considerable quantity of fluid. They are generally cold, but not unfrequently warm. Where they receive an additional impregnation from iron or sulphur, they then belong to another class.

EPSOM WATER.

In the county of Surry, one of the first saline springs is now little used, and is chiefly remarkable for the salt originally prepared from its water, to which it accordingly gives name, or what distinguishes it better, is the title of the *Bitter Purging Salt*.

This water is transparent and colourless; and after some time leaves a bitter saltish taste on the tongue. It does not lose by exposure to the air; and, on examination, is found to contain about five drachms one scruple of residuum to the gallon. This residuum contains about five-sixths of sulphated magnesia, mixed with a few muriats of lime and magnesia, and the remainder is selenite. A half pint of water, therefore, contains less than a scruple of Epsom salt.

Diseases to which applied.

This water is well adapted to that uneasiness of stomach which is attended with pain, tightness, and indigestion.

In hypochondriac cases it is a useful purgative; and when the courses are about to depart in the female, and health becomes irregular, the use of this water is attended with the best consequences. In the same way they are useful to the sedentary and plethoric, who have turned the meridian of life, and to those whose system is loaded with impurities, and shews a scorbutic taint, or what has been termed so.

Where Epsom water is wished to produce a full purgative effect, the water must be taken largely to the extent of two or three pints quickly succeeding each other. In this way it operates as a mild purge. Where again it is only used in small quantity it shews a tendency to pass off by urine, and even in this way it will be useful in the cases pointed out, by assisting the natural action of the stomach and intestines, and by increasing the quantity of saline matter in the system, and augmenting of course the stimulus of the fluids, which will tend to open more powerfully the different excretions.

LONDON WATERS.

Of the same nature with the Epsom water are a variety of saline springs in the neighbourhood of London, as Acton, Bagnigge Wells, Dog and Duck, &c.; but from the smallness of their saline principle they are very uncertain in their operation, and they require to be taken largely, to render them effectual as purgatives. For this reason sea water is perhaps preferable to any of them.

KILBURN WATER.

One, however, of this description deserves more particular

ticular notice. The waters of Kilburn have lately been analyzed with much accuracy by my friend Mr. Bliss. His wish is to bring again before the public the qualities of this spring, so immediately in the vicinity of the metropolis, and to point out the medical advantages which the inhabitants, at a small expence, may derive from its use. From his account of it, a pint of it contains about a drachm and four grains of crystallized purging salts, and nearly nine drachms and a half in bulk of carbonic acid gas: it is therefore drank in tolerably large quantities to produce a purgative effect. From one to three pints are usually taken, and at very short intervals. Its operation is slow and gentle, a circumstance of unquestionable importance to persons whose stomachs are delicate and irritable.

When it does not operate as a purgative, it in general increases the action of the kidneys.

Its full dose will sometimes produce uneasy sensations in the stomach, and a slight drowsiness, owing probably, in a great measure, to distension, but principally to the sudden extrication of the carbonic acid gas.

Diseases to which applied.

My own experience of the medicinal effects of this water does not authorize me to enlarge, with any degree of confidence, upon the diseases in which it may be found beneficial.

Its gradual and mild action upon the stomach and intestinal canal may render it useful in cases of habitual constipation, when the stronger saline and more violent drastic purgatives would be injurious; more especially

as it may be persevered in with impunity until these parts have recovered their natural functions.

It may likewise be employed with advantage in cases of indigestion arising from crudities in the stomach; the viscid matter already accumulated may be removed, and its future collection prevented, by a long perseverance in it: hence its usefulness to persons of a sedentary life, whose occupations naturally induce a sluggish action in the stomach, and its usual consequences, dyspepsy, hypochondriasis, &c. &c.

From the mildness of its operation, also, it is calculated to be serviceable in cases of piles, and other painful affections of the rectum, to which females are particularly liable, and in which more irritating aperient medicines might be improper.

SEA WATER.

The chief resorts for sea water are Brighton, Margate, and Scarborough. This water, at some distance from land, is in appearance quite clear and colourless, void of smell, and shews no marks of any unusual quantity of air of any kind. To the taste it is highly salt, nauseous, and bitter. It becomes soon subject to putrefaction, and this probably from the solution it holds of animal and vegetable matter. In regard to temperature, this water is much more uniform than any inland water, and, as commonly used by us on the coast, it is never lower in temperature than 40 in winter, and never rises higher than 65 in summer. The proportion of salt it holds in solution varies in different places; but in general, on our coast, it is 1-30th of its weight, and its specific gravity is 1.0289. Its composition

composition is muriated soda, in the proportion of near three parts, muriated magnesia one part, and sulphurated lime in a still smaller proportion.

Powers of the Water.

One of the principal effects that succeeds the taking of salt water is considerable thirst, and what is peculiar to its operation as a purgative is, that it may be continued for a length of time without much debilitating the system. It is used in all those diseases where saline waters are prescribed; but its external application is much more extensive than its internal exhibition.

In being employed as a bath, the sea is beneficial in all those situations where cold bathing is admissible, and that is where no general inflammatory symptoms appear. In these situations it displays a considerable stimulus upon the surface, and this stimulus may be increased when necessary, either by mechanical means, as dashing from a height, or by increasing its temperature.

Diseases to which applied.

One of the diseases for which sea water is principally employed is scrofula in its various forms. But its good effects are confined to the first stage of the malady, and before hectic symptoms of any kind have appeared. Both the topical, as well as internal use, should take place in such cases; and in this way both its discutient and healing powers will be apparent, and where its temperature is increased artificially, the best effects will attend its topical use. But whenever sea water is at all employed internally, it should be made to produce evacuation, and it should be persevered in for a length of

time; for it is only by patience and perseverance, in many cases, that it proves successful.*

FERRUGINOUS, OR CHALYBEATE WATERS.

After the saline minerals, which are to be considered

* Though the detail of foreign mineral waters does not enter into our plan, yet the virtues of one of the most celebrated of this class we conceive worth noticing here in a note. This is *Seltzer Water*. Seltzer water is a saline mineral, perfectly clear and pellucid, and of a sparkling nature. It is somewhat pungent to the taste, and is gently saline and alkaline. Its pungency becomes soon lost by keeping it, and as this decays its alkaline flavour increases. From the analysis of this water a superabundance of carbonic acid distinguishes it; hence its acidulous taste, and it soon putrefies, and becomes fetid in the open air. The effect of this water, when drank in moderate doses, is to raise the spirits and increase the appetite; and though no way determined to the bowels, it shews a strong influence as a diuretic. The reputation of the Seltzer water has been very great in a variety of diseases. It is esteemed particularly serviceable in some affections of the lungs, and in the hectic fever that attends them. It is highly useful in cutaneous diseases, and in various derangements of the alimentary canal. It has been likewise highly commended in diseases of the urinary organs, and the relief it gives them is often most remarkable. In hypochondriasis it affords at least temporary alleviation, and removes the uneasiness and spasmodic state of the first passages often experienced. Less precaution is necessary in the exhibition of this than of any other mineral water: and as it is also recommended for a sensible taste and an agreeable flavour, patients are readily induced to go on with it for any length of time.

more

more as remedies of a temporary nature than as producing those constitutional changes which attend the action of the other waters, we proceed to another class, whose operation is more powerful, or the chalybeate.

GENERAL OBSERVATIONS ON CHALYBEATES.

This impregnation is also oftener met with than any other, and from its active powers, and the easy separation of iron from other bodies, its presence is always detected with certainty. Iron, we may observe, is the chief metallic body held in solution in water, and it imparts very sensible qualities to the fluid dissolving it. It is of all others the metal the most congenial to the human frame. It exists in it as a constituent principle, and the effects of morbidly augmenting it, which has been tried by the Italian physicians, is to increase not only the quantity of the colouring part of the blood, but also the general quantity of fibrine, or solid matter, in the system. It is therefore a powerful and universal tonic, increasing by its oxydation both the colour of parts, and the general heat and animation of the body. The exact quantity of iron present in the system it is difficult to determine, as authors are not agreed upon it. It is taken in the greatest quantity from animal food, though it is liable to be changed somewhat by the effects of cookery previous to its introduction. Iron acts most powerfully when employed in the most imperfect state of oxydation; for of all the metals that enter the body, as medicine, it is the most liable to attract oxygen there. The situations of disease to which it is chiefly applicable, are those in which an imperfect animalization is displayed,

displayed, and where weakness proceeds from a defect in the constituent principles of the system, either in consequence of original conformation or accidental causes. This state is particularly characterized by a pallid countenance, by want of natural heat, and much disengaged acid affecting the stomach and bowels. . In such cases, the use of iron is experienced most successful, particularly if joined with that proper quantity of nourishment which will afford animal gluten sufficient for the action of the medicine, or in order to its perfecting the process of animalization. In all cases of inflammatory disposition this medicine has been reckoned hurtful, and even in that chronic inflammation which is combined with some obstruction of the viscera, or of the organs and small vessels, it is equally so. Where ventured on here it should be in the form of a mineral water, as the saline combination will counteract any excess of its tonic power.

MODE OF ACTION OF CHALYBEATES.

The use of chalybeate waters, in the cure of diseases, is a subject of the first importance. Soon after taking a moderate dose the pulse is raised in strength; the patient, if previously chilly and pale, feels a certain glow, occasioned by the increased circulation, and, by proper perseverance, the appetite is strengthened, and the spirits improved: and this improvement takes place in various degrees, according to the constitution of the patient. On the first use, however, of chalybeate waters, with many a number of unpleasant sensations arise, as nausea and sickness, pains of the præcordia or chest, heaviness of head

head, and feebleness over the whole body. These symptoms being merely temporary, seldom require much attention, as they yield so soon as any increased excretion takes place. The effect of all chalybeates is to blacken the fæces, which every patient should know, to prevent any groundless alarm. Another constant effect of chalybeates is the production of costiveness, which should be particularly prevented. Where such waters agree, an increased discharge always comes on under their use; and this either consists in a discharge of urine, or in a very perspirable state of surface.

The general operation of chalybeates is to increase the power of the secretory system; and this takes place in that gradual and uniform manner which is attended with a permanence of stimulus that no way attends the use of other remedies. Debility and laxity of solid are the chief indications, as we observed, for their use, and when no marks of organic disease appear to counteract the success of their operation. Thus in the various states of dyspepsia, the use of chalybeates is of eminent service where atony forms the source of the malady. In the diseases of the female sex they have acquired the same reputation, particularly in green sickness, and in that debility which is often the cause of abortion.

From this view, then, the form of mineral waters is that in which iron is best applied as a medicine. Of the chalybeate springs, one of the first and most celebrated is

TUNBRIDGE WELLS, IN KENT.

Two springs here afford the principal supply; and they have been accurately analyzed by my ingenious
and

and worthy friend, Dr. Babington. Their temperature continues regularly at 50 through the whole year. This water, taken from the spring, is quite colourless, clear, and bright, having no perceptible smell; to the taste it is slightly chalybeate, and by no means disagreeable. On standing some time exposed to the air, its surface becomes covered with scum, and it has lost its chalybeate property, which shews the carbonic acid the cause of solution.

In the use of Tunbridge waters it is necessary to divide the doses, and take them at some distance of time from each other. It is generally begun in the morning about eight o'clock with a dose of three quarters of a pint. This is repeated twice in the course of the noon, and the duration of this plan may be continued according to the state of constitution, and other circumstances, for two months. As the effect of chalybeates begins to decrease by use, and the constitution becoming habituated to their influence, it is sometimes necessary to intermit the course, and then resume it.*

* Two foreign waters of this class, though not entering into our present plan, deserve particular notice. These are Spa and Pyrmont, which are styled highly carbonated chalybeates.

Spa Water.—One of the most powerful chalybeates is the Spa water, in the principality of Liege. It is a chalybeate in which the carbonic acid is in excess, and it is therefore strongly acidulous. It remains longer unaltered by the air than any of the other mineral waters. It is also fatal to aquatic animals, which marks its strong carbonic impregnation. The sensible effects

CONCLUDING OBSERVATIONS ON SIMPLE CHALYBEATES.

Such is the general effect of chalybeates as powerful tonics. They are superior to most of the medicines of this class, but in their exhibition a proper discrimination

effects of this water are more stimulant than any of those hitherto described, and from the commencement they painfully affect the head, and produce symptoms of vertigo. When taken in hot weather, and in a full draught, this amounts to actual intoxication, and sometimes continues for half an hour or upwards at a time, producing the same state as arises from the use of ardent spirits; but differing so far as not being succeeded by the same debility. The regular determination of this water is to the kidneys and skin; sometimes they affect every secretion, and not unfrequently the bowels are powerfully affected by them. They readily quench thirst, and prove useful in ulcerations of the throat, the effect of relaxation. In increased discharges from the urinary passages they give material relief in removing pain and irritation, and thus they contribute to the restoration of a healthy state. In all sexual diseases, the effect of debility, they are highly useful; and in the same way, in all consequences of preceding disease, wherever seated, where these consequences are the mere effect of relaxation, they produce a state of tone and vigour. On the same principle, wherever an inflammatory habit prevails, or local congestion is prevalent, their use is forbidden.

Pyrmont Water, in Westphalia.—This water, when taken from the spring, is quite clear and transparent. It has a sensible pungency to the smell, and produces giddiness in the water servers. Its taste is highly agreeable, being strongly acidulated, and in its briskness it resembles Champaigne wine. It retains strongly, at the same time, the chalybeate bitter impression; and so powerful is its carbonic principle, as when corked,

is required. It is in weakness chiefly, without local derangement, that their success is conspicuous.

So general is the diffusion of iron in water, that there are few counties in Britain but possess some chalybeate spring, famed for its virtues, and which has caused it to be held in veneration in former times, and consecrated to some favourite saint. While philosophy thus has unveiled the mystery of its then supposed hidden qualities, it has brought its virtues to the true test of their real merit, and they are now neither exaggerated by fable, nor depreciated below what they can really perform.

SALINE CHALYBEATES.

From the more simple chalybeates we proceed now to trace those that combine also a powerful saline impregnation, which determining to the bowels takes off the in-

corked, at times to burst the bottles. It possesses, therefore, all the property of this acid unconstrained, and in its most active state. Accordingly, when fresh drank, it is sensibly pungent to the smell, and produces temporary intoxication. At all times it enlivens the spirits, and increases the appetite. The effects of this water on the bowels are uncertain. It is sometimes briskly purgative, and always produces on the fæces a dark colour; but its most common action is an increase of urine, and not unfrequently an irruption on the skin. Its powers over disease are the same with those of the Spa, and it is therefore to be used in all cases of debility, where an active tonic is required.

The doses of Spa and Pyrmont waters are about three pints a day, in divided portions, regulated by the state of constitution and their apparent effects.

inflammatory

inflammatory tendency in the system, which the action of the pure chalybeate in certain constitutions is apt to produce. Of these we begin with

CHELTENHAM WATER

in Gloucestershire, which is one of the first consequence, and the fame of it is daily increasing, as it unites the saline and chalybeate principle ; its action, therefore, is powerful upon the bowels. When fresh drawn it is not perfectly transparent. By standing it becomes turbid and separates bubbles of air. It possesses a slight sulphureous odour, very perceptible on the approach of rain. To the taste it is brackish, bitter, and chalybeate. From this account it contains very active ingredients. It does not keep nor bear transporting to any distance, the chalybeate part being soon lost by precipitation, and in the open air it even turns soon fœtid.

Powers of the Water.

The sensible effects produced by this water on first taking it, are a degree of drowsiness, and sometimes head-ach, but which pass off even before its operation on the bowels. Its operation as a laxative is highly salutary, producing neither griping nor sense of weakness, so that it may be persevered in for a length of time, without producing any inconvenience to the body ; and during its use the appetite will be improved, the digestive organs strengthened, and the whole constitution invigorated. In small doses it is apt to pass off by the kidneys.

Diseases to which applied.

This water is much used in a variety of chronic diseases. In the cure of glandular obstructions it is considered particularly

ticularly beneficial, especially where their seat is the liver and alimentary canal. Thus it is the chief restorative for the injuries of a hot climate, in respect to the secretions of these organs, and even considerable debility in such cases is no objection to its use. The operation of this water is occasionally assisted by a junction of the warm bath. Cutaneous eruptions, of a chronic nature, are also much relieved by this mineral, where their appearance is occasional, and at stated intervals. In cases of simple debility or relaxation, this water certainly yields to the other chalybeates; but wherever there is obstruction, or fixed local congestion, its exhibition is strongly indicated.

A course of Cheltenham waters is conducted in two ways, either in such doses as to affect the bowels, or merely to pass off by urine. In the first case the dose is half a pint three or four times a day, which will be found sufficient to answer the purpose. Attention is to be paid whether the patient's habit of body, and the nature of his complaints are suited to bear such continued evacuation. Judgment, therefore, is required in directing the proper use of this water, and it has been common to assist its operation in affections of the skin by the aid of the warm bath, and where its effect is not sufficient on the bowels, which is rarely the case, by the addition to the water of some purging salts. These, from the evaporated water being preferred, it would be of consequence perhaps that this mineral was exhibited, as on the continent, in the warm or thermal state. Its composition agrees in other respects with those of Auvergne and Bourbonnois in France, and Carlsbad in Bohemia.

The season for drinking this water is during the whole summer, and the water is only useful drank on the spot.*

SCARBOROUGH WATER, IN YORKSHIRE.

Scarborough is another of the purging chalybeate waters, though not so active, in this respect, as the

* Several foreign chalybeates occur to be mentioned here, and an acquaintance with them will be useful, though not exactly entering into our plan. These are Vichy and Carlsbad waters, the account of which we here give from Dr. Saunders' excellent work.

Vichy Water.—The provinces of Auvergne and the Bourbonnois, which are situated nearly in the centre of France, in a mountainous district, possess, among other mineral treasures, a great number of warm springs of different degrees of temperature, and various composition; but for the most part they are of the class of hot saline chalybeates, and generally with a small excess of soda, so as to be sensibly alkaline in their properties. Many of these have long obtained a very high celebrity in the country for the cure of several diseases, and their nature has been explained by several ingenious observers, though not quite of modern times. Of those that are much frequented, we may enumerate the famous hot-baths of Bourbon, in the villages of Bourbon-Laney, and Bourbon l'Archambault, near the town of Moulins; the waters of the Mont d'Or in Auvergne, which contribute to the formation of the river Dordogne; and the baths of Vichy in the Bourbonnois, situated on the banks of the river Allier, a very large tributary to the Loire.

These thermal waters have been frequented for a great number of years; many of them contain baths which are indisputably

former. Its general effect, however, when taken moderately, is always to open the body rather than to pass

ably of Roman construction, and are decorated with elegant buildings that have been constructed by several of the French princes. As an example of the general nature of these springs, we may select that of Vichy, which is one of the most conspicuous.

The town of Vichy is situated in a very fertile plain watered by the river Allier, full of vineyards and fruit trees. This plain, which is at a moderate distance from the lofty mountains of Auvergne, abounds with springs of very different kinds; for, both hot, tepid, and cold waters, are here found almost contiguous to each other. The hot and tepid springs, like most others of this class, issue forth in great abundance and with impetuosity. There are six different sources at Vichy, which vary a little in temperature, and in the proportion of the foreign contents. The taste of them all is more or less saline, and somewhat bitter, and they possess a degree of pungency to the smell. On the addition of any of the stronger acids, a copious effervescence is excited, indicating the presence of much carbonic acid. The addition of galls causes a slight change of colour to a rose-purple, but this only takes place when the water is fresh. By evaporation, these waters deposit an earth which effervesces strongly with acids, and is therefore carbonat of lime, and yield at last a residuum, of which a part is easily crystallizeable, gives a vivid green with syrup of violets, effloresces in the air, and has all the properties of carbonated soda.

The sources of these waters appear to be quite out of the reach of any influence from the atmosphere, for no variation is perceived in them either in winter or summer. In their
channel

off by any other secretions. It is employed in the same diseases as the former, and the same good consequences

channel! they leave a yellowish mud, which is doubtless principally oxyd of iron.

All the waters of Vichy, therefore, are warm, chalybeate, and alkaline, probably too, mixed with some earthy muriats, which increase their operation on the bowels; for the residuary salt is found to be less purgative in proportion to the number of times that it is washed, and brought to a greater state of purity.

The saline nature of these springs is shewn in a striking manner by the great eagerness with which sheep, cows, and other animals, crowd to drink these waters, and to lick the stones and sides of the channel through which they flow. Their fondness for this beverage is so great, that at stated times they cross the Allier in numbers, swimming over the river, but without tasting it, as they so much prefer their favourite salt springs. It is found that this water first purges them, but increases their appetite, and assists in rendering them fat, and in good condition.

The immediate effects attending the internal use of these waters is an increase in the intestinal evacuation, more or less according to the individual spring. They likewise determine considerably to the kidneys, and from these circumstances, added to the operation of the chalybeate and the alkaline ingredient, we may account for the very great benefit which has long been known to attend their use in a variety of cases.

It will not be necessary again to enumerate those particular symptoms of disease affecting various organs, in which these waters have been employed with advantage; it is sufficient to observe, that they are highly serviceable in all the disorders of the stomach that appear to depend on a debility of that viscus, unconnected with organic disease, and especially where the
marks

follow its exhibition. Being on the coast, sea-bathing will often form a useful addition to this course.

marks of acidity prevail; in the consequences of various derangements of the hepatic organs, such as the bilious cholic, and bilious diarrhœa; and in a sluggish torpid state of bowels, inducing obstinate costiveness, loss of appetite, and irregularity in the functions of the whole alimentary canal. Like the Seltzer water, the thermal springs of Vichy and Bourbon are highly esteemed in nephritic diseases, where they very powerfully sooth the excessive pain which accompanies the formation of calculus, and assist in rendering the discharge of sabulous matter more easy, if not in preventing its concretion.

The copious employment of these warm waters in bathing, extends their utility to a number of cases, in which the warm bath has long been found of benefit, such as rheumatism, sciatica, gout, and the like; and in many of these, the internal use of the water very properly accompanies the external. This is particularly the case with many of the disorders peculiar to the female sex, owing to irregularity in menstruation, and a defect in the functions of the uterine organs; and hence these springs have acquired great reputation for the removal of barrenness, chlorosis, and other female complaints. The celebrated Catharine de Medicis, the mother of several French princes, is said to have been much indebted for her fertility to the waters of Bourbon-Lancy.

As the waters of the thermal springs of Auvergne and the Bourbonnois lose all their chalybeate principle as well as their temperature by carriage, they are not of sufficient importance when become merely supercarbonated alkaline waters, to be an object of commerce like the Seltzer; and therefore, though highly interesting to the naturalist and the physician on the spot, it will not be necessary to give them here any further notice.

Carlstad

NARTFELL, NEAR MOFFAT, IN SCOTLAND.

This chalybeate differs from the others in being held in solution by a fixed acid, the sulphuric. It is therefore
a vitriolated

Carlsbad Waters.—There are few waters that have more engaged the attention of chemists and physicians than the very celebrated thermal chalybeate springs at Carlsbad, in Bohemia, better known by the name of The Caroline Baths. As these possess a higher temperature than any of the hot springs in our own country, and have a peculiarity of composition of which we can exhibit no example here, it will not be uninteresting to give some description of them, for which we are furnished with ample materials by Berger, Hoffman, Bergman, and others.

The whole country on the banks of the Eger, in Bohemia, is rich in minerals and mineral waters of various kinds, but especially chalybeate; and of these many are highly acidulous and cold, like the waters of Spa or Pymont; but others are very hot, and these have given celebrity to the spot in which is now situated the village of Carlsbad. This name, as well as that of the Caroline Waters, is attributed to their having been resorted to, and first brought into considerable notice, by the emperor Charles IV. in 1370, which shews that the baths have been long held in estimation. Carlsbad contains several springs, all of which resemble each other in height of temperature and in chemical properties: the most important of these is one which arises with great vehemence, and in a most copious stream, intolerably hot to the touch, and boiling up with violence, and on this account it has been denominated the Prudel, or furious spring. This is the water which supplies

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a vitriolated chalybeate water. It is strongest after heavy rains, and it keeps for a long time unimpaired, shewing

plies the greater number of the baths and the drinkers, and it is besides used for several domestic purposes, such as scalding fowls and hogs, to loosen the feathers and hair, for which its heat is quite sufficient. This fountain terminates directly in the little river Teply, which it renders sensibly warm for some distance, (the word Teply signifying warm in the Bohemian tongue) till it joins the Eger, a tributary river to the Elbe.

The temperature of the Prudel fountain, as it first issues forth, is as high as 165°, and keeps invariably to the same point. This is hotter than any of the mineral waters that we are acquainted with, which are employed medicinally; and indeed this water requires to be cooled before it can be used as a bath, or even drank. On account of the heat and quantity of water, there is always a thick vapour seen to hover about the mouth of the spring, and from the density of the steam, and the tardiness with which it disperses, the country people foretel the approach of rain.

The taste of this water is ungrateful, being slightly alkaline, saline, rather bitter, and strongly chalybeate. It scarcely gives any smell, except a slight pungency to the nostrils, but without any thing sulphureous or fetid. This water is remarkable for a very rapid and copious deposition of a calcareous earth, which takes place always on cooling, and forms a very hard and beautiful stalactite, which lines the inner surface of any tube or channel through which it flows, and forms petrifications around moss, pieces of straw, or any extraneous substance which is put in the stream for twenty-four hours. All the iron which the fresh water contains is also precipitated by cooling,

shewing its ingredients to be of a fixed nature. For the cure of many diseases this water is a remedy of great

cooling, and rather sooner than the calcareous earth; and a very fine laminated calcareous stone, in variegated colours, is thus formed in large masses around the channel of the stream. This, when polished, almost rivals the jasper in beauty.

The various springs at Carlsbad give strong indications of containing a large quantity of carbonic acid, and this gas shews itself both in combination with the water, and uncombined, filling several caverns that have been discovered in the rocks adjoining to the springs, and rendering them fatal to all animals that enter them incautiously.

Besides the Prudel fountain, there is another of considerable importance, and differing somewhat in composition, which, from the circumstance of its turning a mill, has been called the *Mühlbrunn*, and appears to have been particularly brought into notice by Hoffman. The temperature of the latter is only 114°, and it differs from the former, in containing more carbonic acid, more soda, and less calcareous earth. This occasions somewhat different effects on the body, which will be presently mentioned.

The general result of the analysis of these waters, therefore, is, that they are all considerably complex in their chemical nature, and contain several of the more active of those principles which appear to give medical powers to any natural water. They are all more or less thermal, and possess a heat several degrees higher than the animal temperature. They are all acidulated with carbonic acid, but at the same time contain a very notable portion of soda and calcareous earth: they besides hold in solution a sensible quantity of Glauber's salt.

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great reputation. Its first effects, when taken, are sometimes giddiness and sickness, especially in a large dose.

With regard to that of the iron, it is probably very minute, and not more than is contained in Bath water, as the circumstances of precipitation with galls appear to be very similar in each; but, from the greater degree of temperature, the Caroline water will probably make a stronger chalybeate impression on the taste than even that of Bath.

From a review of the composition of the Caroline water, compared with that of other medicinal springs, we might expect it to produce powerful and various effects upon the body, when taken internally, and this is actually the case, as appears from the best authorities. Its most obvious operation is that of exciting the action of the bowels, which it does in almost all cases when a considerable dose is taken, and it proves a purgative of great strength, and very speedy in its action. The more tepid and less earthy spring, the Muhlbrunn, is found to open the bowels with more certainty than the other; for the Prudel is somewhat various in its effects, a circumstance which probably depends on the state of the stomach that receives it, and on the quality which the contents of this organ may have to neutralize the calcareous earth and alkali of the water. Not unfrequently, when the stomach is very foul, the water excites vomiting when first taken. As a cathartic, the Caroline waters operate without ruffling, and leave the body cooler, and the appetite and digestive powers stronger.

The secretions of urine, perspiration, and saliva, are likewise increased by this natural medicine, both when taken often in small doses, and even accompanying, or subsequent

to

dose. Its operation on the bowels is irregular; a costiveness is most common from it; but sometimes there are

to the operation on the bowels. While this water is exerting its action on all the secretions, it shews the properties of a general stimulant, for it increases the pulse, the heat of the body, and occasionally brings on a head-ach, in plethoric and irritable habits. It is also remarked, that with several persons, after drinking the water copiously, many parts of the body, and especially the feet, swell considerably; but this cellular effusion soon disappears after using the bath for a day or two. Besides these symptoms, the common effects of determination to the head very frequently occur, such as head-ach, vertigo, and drowsiness, particularly on the use of the hottest of these waters. Sometimes, in habits in which the secretions are irregular, and the skin irritable, a course of these waters will bring on a copious cutaneous eruption, which gradually subsides by a farther continuance in this natural medicine.

The diseases, to the cure of which these celebrated thermal springs are applicable, are as various as the nature of their foreign contents; and from the union of several valuable qualities in one water, it may be made use of in cases of very opposite natures, without incurring the censure of employing it indiscriminately as an universal medicine. In common with the other purgative chalybeates, it is found to be eminently serviceable in dyspepsia, and other derangements of the healthy action of the stomach; in obstructions of the abdominal viscera, not connected with great organic disease; and in defect or depravation of the biliary secretion; and here probably the soda will contribute much to the general efficacy. In those disorders of the kidneys and bladder, that are attended

are gripes and diarrhœa. In all diseases of general weakness and debility, this will prove a useful remedy; and it has been therefore employed in complaints of the stomach and bowels, and in increased discharges of a passive nature, with decided advantage. Even in pulmonary consumptions relief has been obtained from its use. Nor is its benefit confined to internal exhibition.

with a discharge of sabulous concretions, and a tendency to calculus, the Carlsbad waters have long been celebrated; and their operation, like that of the other alkaline waters, is that of increasing the flow of urine, and at the same time rendering it less painful, and giving an easier passage to the extraneous matter, which, when detained, is productive of so much mischief. Owing to the activity of the chalybeate ingredient, and at the same time the power which this mineral spring possesses, of giving a sensible increase to all the secretions, without inducing debility, it is highly esteemed for restoring a healthy state to the uterine system in females, and thereby removing sterility. In short, we may ascribe to this thermal water the virtues that reside in several of the mineral springs which we have already noticed; and its high temperature and abundant quantity render it admirably adapted for warm bathing at any degree of heat. The same precautions against its internal use in plethoric and irritable habits, in those who are subject to hæmoptysis, or liable to apoplexy, require to be observed here as with any of the other active thermal waters; and as its power of producing serious mischief, when misapplied, cannot be doubted, its efficacy in removing various diseases, and relieving many distressing symptoms, is equally established by long experience.

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As an external application it has proved highly salutary in old and languid ulcers, and checked the vitiated discharge, the effect of that debility of solid with which they are connected.

After the Tunbridge water, which is a simple chalybeate, some others of lesser note may be enumerated, as those of Islington and Hampstead, in the neighbourhood of the metropolis. The last of them has been lately analysed with much attention, along with that of Kilburn, already noticed, by my friend Mr. Bliss. I shall add the conclusions he draws here, in the same manner as he has done on the Kilburn waters.

HAMPSTEAD CHALYBEATE.

Like other waters of the same class it is undoubtedly stimulant; with some persons it occasions nausea and slight vertiginous affections: these inconveniences, however, are prevented, either by diminishing the dose, or by omitting its use for a few days, especially if care be taken to empty the bowels by some gentle laxative.

It generally operates powerfully by urine, and usually occasions constipation: this latter circumstance is easily obviated, either by the occasional use of an opening remedy, or, what is preferable, the constant addition of a small quantity of Epsom, Cheltenham, or any other aperient neutral salt, which renders it little inferior in efficacy to the celebrated waters of Cheltenham or Scarborough.

This combination might lead to an improvement in practice, by uniting with this chalybeate the simple sa-

line water of Kilburn, which is barely two miles distant, and might be conveyed hither without any change in its properties.

This water has been found very beneficial in all chronic diseases which arise from languor of circulation; where there is general debility of the system, or laxity of the solids; and in all cases where tonics and gentle stimulants are required. For instance, it is particularly serviceable in dyspepsia, nervous weakness, hypochondrisis, green sickness, amenorrhœa, floatings, whites, suppressed courses, and in all diseases of mere debility: but great circumspection is required in its exhibition, where there is any organic disease, or much febrile irritation.

Its action upon the kidneys renders it a powerful auxiliary in cases of dysury and gravel, and in several diseases of the urinary passages.

It is also of essential service in most cutaneous affections, particularly in leprosy and the different species of itch; as has been noticed by the late Dr. Willis.

The usual season for drinking it is from April until the end of October; the quantity taken must be varied according to the age, disease, and constitution of the patient: in general, the best method is to begin with a quarter of a pint before breakfast, another an hour after it, and a third about noon; gradually increasing the dose to half a pint, as the stomach and head can bear it: this quantity may be persevered in daily for two or three months, when it will be judicious to omit its use
for

for a few weeks ; for, like most other tonic remedies, a partial discontinuance is frequently useful.

It is scarcely necessary to observe, that this water, like all others of the same nature, should be drank upon the spot, as it must lose much of its activity by exposure ; and that in most cases its beneficial effects are increased by the exercise of riding or walking, according to the state of the patient, and the nature of his disease.

CONCLUDING OBSERVATIONS ON CHALYBEATES.

We now close our view of chalybeate waters ; and while the acidulous and saline may be entered upon without any danger, the chalybeate waters, it is to be remarked, often require a certain preparation, and a more gradual proceeding in their use. The effect of chalybeates we have found to be a tendency to increase an inflammatory disposition in the system, and therefore, in those constitutions where such tendency prevails, the use of blood-letting, and also a proper opening of the bowels, may be at times necessary preparatory to their exhibition. When begun, also, they must be pushed on in a more gradual manner, and by their use no degree of permanent fever allowed to take place. These cautions, however, apply only to the pure chalybeates. The saline ones, by affecting the bowels themselves, prevent this tendency, and such preparation is more necessary with the highly carbonated chalybeates of the continent than with those in this country.

From the chalybeates we proceed next to the

SULPHUREOUS WATERS,

Or such as possess a strong sulphureous smell,

and the sulphur with which they are impregnated is united either to hydrogen or an alkali, so as to render them very powerful agents on the human body. Of this class there are considerable varieties, possessing also various degrees of temperature, but they all agree in their general properties. Thus they possess a fetid smell, a peculiar sweetish taste, at first unpalatable, but soon relished from habit. They cannot be transported to any distance without their ingredients being decomposed.

Sulphur, their chief ingredient, is contained in very small proportion in animals ; but, at the same time, it is much used in medicine.

As a medicine, sulphur, in its natural state, is distinguished by its insolubility in the animal fluids, by its specific action in itchy affections, and by its power of diminishing the activity of other medicines of a metallic nature. The first arises from its entering so little, as a constituent part, into the principles of the animal body ; the second is a consequence of its highly penetrating and diffusible nature, acting as a powerful stimulus on the extreme vessels of the skin, and hence applied in any manner it is equally effectual ; and the third is by reason of its abstracting from such metallic remedies that part of the oxygenous principle which gives them oxydation, and on which their activity depends. But it is in the form of hepatic gas, or air, that we find it present in mineral waters.

This air is distinguished by its peculiar disagreeable fetid smell or sulphureous odour. It destroys animal life

life, and reddens the vegetable colours. It extinguishes flame, but, in contact with vital air, it burns with a light blue flame, and at the same time it deposits a residue of sulphur. It prevails abundantly in this class of the sulphureous mineral waters, which are saturated with it. It consists of a compound of sulphur and inflammable air in the proportion of 1-8th part of the sulphur; every species of hepatic air indicates a slight acidity.

With this account, then, of the power to which they owe their activity, we enter upon the consideration of this class.

HARROWGATE WATER, IN YORKSHIRE.

The first of the sulphureous minerals to be noticed is the Harrowgate water, the supply of which is afforded by four springs of the same quality, though differing in the degree of their powers. This water, when first taken, appears perfectly clear and transparent, and sends forth a few bubbles, but not in any quantity. It possesses a strongly fetid smell, and a bitter, nauseous, and very saline taste, which is soon borne without any disgust. In a few hours of exposure this water loses its transparency, and becomes somewhat pearly, and rather greenish to the eye. Its sulphureous smell abates, and this ingredient is deposited as a thin film in the vessel in which it is kept. The volatile products of this water shew carbonic acid, sulphurated hydrogen, and azotic gas.

Powers of the Water.

The sensible effects which this water excites, are often a head-ach and giddiness on being first drank, followed by a purgative operation, which is speedy and

mild, without any attendant gripes; and this is the only apparent effect the exhibition of this water displays.

Diseases in which applied.

The diseases in which this water is used are numerous, particularly those of the alimentary canal, and irregularity in the bilious secretion. Under this water the health, appetite, and spirits improve; and from its opening effects it cannot fail to be useful in the costive habit of hypochondriasis, which requires, at all times, a laxative remedy of this mild operation. But the highest commendation of this water has been in cutaneous diseases, and for this purpose it is universally employed, both as an internal medicine and an external application. In this united form it is of particular service, even in the most obstinate and complicated forms of cutaneous affection; nor is it less so in states and symptoms supposed connected with worms, especially with the ascarides; and in order to prove successful here, it should prove briskly purgative.

A course of Harrowgate waters should be conducted so as to produce sensible effects on the bowels. Half a pint taken in the morning, and repeated three or four times, will produce it, and its nauseous taste may be corrected by taking dry biscuit, or a bit of coarse bread, after it. The course must be continued in obstinate cases a period of some months, before a cure can be expected.

MOFFAT WATER.

Moffat water, in Scotland, when first drawn, appears rather milky and blueish; the smell of it agrees with that of Harrowgate; its taste is simply saline and sulphureous,

reous, without any thing bitter ; it sparkles on turning it from one glass to another.

Powers of the Water.

The only sensible effect of this water is increasing the flow of urine, and it only purges after an excessive dose, which is more owing to the bulk of water than the mineral ingredients.

Diseases to which applied.

The success of this water has been chiefly displayed in cutaneous eruptions, and the external application of it in an increased temperature has been equally trusted to, as its internal exhibition. Scrofula is also a disease for which it is alleged to prove a sovereign remedy. It is chiefly, however, in the earlier stages of this malady that it has afforded the most complete relief, and tumours have been dispersed by it without suppuration. In irritable ulcers it is used at the same time as an external application, nor are its effects confined to this disease ; in bilious habits and dyspepsia it forms a frequent remedy, where a want of action prevails in the alimentary canal.*

* Three foreign waters of this class deserve to be here noticed. These are Aix-la-Chapelle, Borset, and Barege.

Aix-la-Chapelle Water, in Germany.—This water is at first perfectly colourless and pellucid : it sends out, however, a strong sulphureous odour, so penetrating in close weather as to strike the nose at a considerable distance. The taste of this water is saline, bitterish, and rather alkaline, and both the taste and smell are more powerful in proportion to its heat. On standing, this water acquires a milky hue, and deposits an earthy sediment. By this deposition it loses much of its smell,
and

CONCLUDING OBSERVATIONS ON THIS CLASS.

Such is our account of the principal examples of the last class, or Sulphureous Minerals, perhaps the most

and when cold retains scarcely any, which may be again renewed by heating it. This water is particularly distinguished by a vast quantity of sulphur it holds in solution; and it is this principle suspended in hydrogen to which it owes its activity. The sensible effects of this water are but few. It produces in general some cheerfulness and gaiety of spirits, but taken largely it affects the head, and brings on vertigo and sleepiness, and the more so if it is hot. It sometimes excites nausea, from its strong smell and taste, till the patient is accustomed to them; but this effect is merely temporary. In their operation these waters prove mildly laxative, when liberally taken, though this is greatly determined by the state of stomach of the patient. The increased determination to the kidneys, and skin is a more usual effect of their operation, particularly the latter; and this state is highly favourable in the disorders for which they are commonly used. During a course of these waters they impart a sulphureous smell, and silver in the pockets of the patient is tarnished. The diseases to which these waters administer relief are numerous; affections of the stomach and biliary organs are among the principal. Disorders of the kidneys and bladder, attended with much irritation and mucous discharge, receive also benefit. They are regarded as improper in all active inflammatory states, and particularly where a hectic fever, diseased state of the lungs, or disposition to hæmorrhage prevails. These waters are even more extensively employed as a hot bath than as an internal medicine, and they are more medicated than any others in use. From their high temperature and sulphureous impregnation, they are powerfully detergent, and are found of particular service

vice

active of the whole, both as internal remedies, as well as external applications. When a cure has been completed

vice in stiffness and rigidity of the joints and muscular parts, particularly in the consequences of gout and rheumatism, and that weakness which attends palsy. In every cutaneous eruption they are of eminent benefit; and in this case the internal exhibition of the water should be enjoined. It is also a powerful tonic in that relaxation which succeeds a long continued use of mercury. This water is even so hot in its natural temperature as to form a vapour bath. In this form it is much more liable than in any other to affect the head, and occasion flushings of face, and other marks of determination to the brain. It should be therefore cautiously employed, and internally. Half a pint should be a dose, and repeated according to its effects on the body.

Borset Water.—The second of the foreign minerals to be noticed is Borset. Contiguous to the city of Aix-la-Chapelle, a quarter of a mile to the south, is the village of Borset, or Bordseheit, also enriched with several thermal springs, which, however, on account of their proximity to Aken, are but little frequented by invalids, but are principally made use of by fullers and cloth-workers, on account of the convenience of procuring, without expence, plenty of hot water, a little alkaline, which is well adapted for the cleansing of cloth.

One of the springs of Borset resembles those of Aix in all its constituent parts, but the impregnation with sulphur is much weaker. It deposits, however, some sulphur in its course through any confined channel on its upper part, but not sufficient to be worth collecting. It is pretty strongly alkaline. Its temperature is 132°, which is nearly as high as the hottest baths at Aix.

The

by their means, it is often the custom to confirm it still further by removal to one of the third class, or a chaly-

The other hot spring differs considerably from the former, in containing no sulphur in any form, and therefore has no odour, nor does it blacken the solutions of silver or lead. It is however equally alkaline, and the heat is as high as 152° , and therefore much exceeds the hottest of the Aken waters. In this spring there is a large quantity of earth suspended, which is deposited as the water cools, and forms hard incrustations to a considerable thickness round every substance that may lie in its way, and will serve as a nucleus. Notwithstanding this circumstance, it is found highly useful in scouring wool and cloth, boiling vegetables for the table, and in those domestic purposes for which a soft water is required. The alkali which they contain corrects, therefore, the hardness which the abundance of earth would otherwise give.

This curious spring also contains some carbonic acid, which is constantly escaping from the fresh water, and is in sufficient quantity to corrode in a short time the leaden covering which is used for the vapour baths, and any iron which may happen to be within its reach.

The stream flows from the several baths into a large fish-pond, where it is of a blood heat. Here carp and tench multiply very fast, and grow to an enormous size, but their flesh is flabby and without flavour, till they have been removed into a pond of cold water, and kept there for about six months, when they become perfectly firm, and good for the table.

Borset water, when used medicinally, is chiefly employed externally, and the great heat which it possesses allows of every convenience for the vapour, hot, warm, and tepid bathing.

Barege

beate, and this will frequently be found attended with the best consequences. In the same way, where the

Barege Water.—The small village of Barege, celebrated for its thermal waters, is situated on the French side of the Pyrenees, about half way between the Mediterranean and the Bay of Biscay, near to the source of the Adour, which takes its rise in these wild regions, and falls into the sea at Bayonne. Barege is composed of two small hamlets, the principal of which, Lower Barege, contains about fifty houses, along with the baths. Close to the village runs the little stream of the Bastan, which flows in a rapid course to join the Gave, one of the tributaries to the Adour.

The situation of Barege is highly wild and romantic. The valley of the Bastan is on all sides enclosed by lofty crags, the sides of which are arid, scarcely admitting of cultivation, and intersected by deep perpendicular ravines, the channels of large torrents, when the winter snow begins to melt from the mountains. To defend the village and baths of Barege from the ravages of the waters, a large stone dyke was erected by M. Louvois, which bears his name, and protects the centre of the town, where are situated the hot springs, whilst the whole place is overhung by a wood of oak and ash trees that cover the lower part of the mountain.

The hot springs that have given celebrity to the village of Barege are four in number. They have all the same component parts, but differ somewhat in their temperature, and in the quantity of sulphur, the hottest being the most strongly penetrated with this active ingredient. The coolest of these waters raises Reaumur's thermometer to 27° (about 73° Fahr.); the hottest is 89° , (120° Fahr.). They are all very light, almost equally so with distilled water, and have a slight taste
and

simple or carbonated chalybeate is too powerful, the saline compound, or purging chalybeate will answer the

and smell of liver of sulphur. The three coolest are used chiefly for supplying the bath $\bar{s}$, the hottest, for drinking and topical applications.

The waters of Barege are remarkable for a very smooth soapy feel; they render skin that is immersed in them very supple and pliable, and dissolve perfectly well soap and animal lymph. For this property they are doubtless indebted to the soda and bituminous matter which they contain.

Barege is chiefly resorted to as a bath, and from the highly detergent powers of its waters, joined to the degree of heat, they have been supposed to possess peculiar powers as discutients in resolving tumours of various kinds, rigidities, and contractions of the tendons, stiffness of the joints left by rheumatic and gouty complaints, and likewise they are highly serviceable in cutaneous eruptions. The warm bath is used both generally, and in the form of *douche*. Internally taken, this water gives considerable relief in disorders of the stomach, especially attended with acidity and heart-burn, in obstinate cholics, jaundice, and in gravel and other affections of the urinary organs.

The vallies adjoining to Barege also abound with hot springs, equally sulphureous and alkaline, and used for medical purposes. Of this kind are the baths of St. Sauveur and Cautères. Some of these latter raise Fahrenheit's thermometer as high as 131°.

At a small distance from the valley of the Bastan, at the village of Bagnères, on the banks of the Adour, there are also found a vast number of hot springs of various temperatures, from 88° to 135°. These all resemble each other in chemical composition,

purpose better, and not render those restrictions of diet or preparation so necessary, as the inflammatory nature of the pure chalybeate requires.

composition, but differ strikingly from those of Barege, in containing no sulphureous ingredient, nor any excess of soda, but are hard to the touch, and highly selenitic.

They are much resorted to from the south of France, and used chiefly externally, as simple thermal waters,

PART III.

HISTORY AND TREATMENT OF THE PARTICULAR DISEASES WHICH REQUIRE THE USE OF MINERAL WATERS.

SUCH is the short view we have offered of the use of water as an article of diet in health, and as a remedy against disease. We have examined also the various forms in which it is employed both in its simple and impregnated state, with the different degrees of temperature in which it requires to be occasionally employed. It remains, however, in the last place, to apply these general rules and observations contained in the preceding detail to practice, or to specify and enlarge upon the particular diseases for which the use of water, particularly in its mineral state, proves a powerful, and, for the most part, successful remedy. These diseases are mostly all of a chronic nature, and they consist either in a state of general weakness or debility, an affection of particular organs, or a faulty disposition of the extreme vessels of the skin, and this connected at times with a taint of the fluids. We shall consider them, therefore, in that order.

I. NERVOUS COMPLAINTS.

Of the first division the most prominent that occurs is what are termed nervous complaints, or what forms in a general view the asthenic state, consisting in a uni-

versa

versal relaxation of the habit, and particular debility of the nervous system. This state is well described by Dr. Willan. It commences with general languor, a sense of lassitude, or aching in the limbs; and often with tremors. The symptoms are succeeded by shooting pains, head-ach, giddiness, and a strong disposition to sleep, even in the day-time. There is a sensation of faintness, or depression, referred to the stomach, which calls for a frequent supply of nourishment: but, as the craving is not seconded by a proportionate activity of the digestive powers, an overcharge soon takes place, and produces heartburn, flatulency, violent pains of the stomach, or nausea, with bilious vomitings, and diarrhœa. Females, in these circumstances, are distressed with a pain in the left side, sometimes alternating with the pain of the stomach.

This complaint takes away the ability of any considerable corporeal exertions; and also renders a long attention of the mind to any subject, not only difficult, but painful. The patient's temper becomes irritable, fretful, and capricious; the judgment is defective and irresolute; the imagination suggests nothing but gloomy ideas, often extending to despondency. No taste remains for accustomed amusements; but every feeling, every sensation, seems unpleasant. The night-sleep is disturbed by frightful dreams and startings; and the patient awakes, in the morning, unrefreshed, or feeling as if much bruised and fatigued.

Impure air, sedentary occupations, anxiety, and the irregular modes of living in a crowded city, are the external

ternal causes which lay the foundation of asthenia. Not only those inhabitants are affected with it who live delicately, and withhold themselves from no indulgence, but labourers, servants, and all persons confined to a dull, unvaried track of business, are sensible of its effects. In summer the complaint is much aggravated by the relaxing influence of a warm, dusty atmosphere ; to which may be added the stifling heat reflected from continuous brick walls, windows, and a burning pavement. Unhappy they who are doomed to toil in such a situation throughout the year ! who seldom enjoy the sun's direct rays in the colder seasons ; and during the hot months " are never fanned by the western breeze." In the moments of languor, they court the delusive aid of spirits, by which all their complaints are rendered more inveterate ; they gradually droop and pine ; become hectic, consumptive, or paralytic ; or, falling into the state of chronic weakness, so well described by Dr. Withers, remain, through life, a burthen to their friends, the public, and themselves.

From the causes which induce this train of symptoms, it is clear change of situation is one of the first objects required. In doing this, the preference is naturally to be given to a watering place, where every means of strengthening the system can at the same time be procured. The mineral waters to be selected with this view are those of a chalybeate nature, and the place where they are to be drank should both possess a pure healthful air, and also be able to afford the patient a full opportunity of proper exercise. With this view, Malvern,

in Worcestershire, is one of the best retreats that can be chosen. The Holywell water is that of a slight chalybeate, which gradually amends the appetite, and increases the strength, while the salubrity of the adjacent country assists recovery equally with the use of the mineral. If, however, a stronger mineral is preferred, or the patient is anxious to be nearer the metropolis, he may enjoy the use of a chalybeate mineral still better at Tunbridge; though the farther a person is carried from home, or from the same scene and occupations to which he has been accustomed, in all nervous cases, the quicker will be his amendment. Along with the internal use of the water bathing is also to be employed, suiting the temperature exactly at first to what the feelings of the patient can bear, and gradually diminishing the height of temperature as amendment takes place.

2. GENERAL RELAXATION OF A WARM CLIMATE.

Another species of the same disease is the general relaxation that ensues from a residence in a warm climate. There are few European constitutions that are capable of enduring a very long residence in a warm climate, without suffering, sooner or later, from a degree of general relaxation. As the same speedy restoration of strength does not there take place as in cold climates, those who have been so unfortunate as to have had various attacks of sickness, or have enjoyed but indifferent health, often suffer much from this complaint.

Whatever tends to occasion a deficiency of vital heat, and a laxity of the muscular fibres, will evidently produce

produce a general debility, and weakness of the whole frame. The great discharge by perspiration, and the constant exhaustion of animal spirits which takes place in warm climates, bear an essential tendency this way. Bad health, intemperance, excessive activity, and an immoderate use of spirituous liquors are the occasional causes of general relaxation.

This state comes on with a gradual diminution and loss of muscular strength, attended with languor, unwillingness to move about, loss of appetite, acidities in the stomach, flatulency, costiveness, flabbiness of the flesh, lowness of spirits, paleness of the countenance, habitual chilliness, and disturbed sleep. If the weakness prevails in a high degree, then perhaps a copious discharge of limpid urine takes place, profuse sweats arise, and at last dropsical swellings ensue.

The proper treatment of this disease is by removal to a colder climate, or what is termed a voyage home, so as to get the better of the causes which induce it. If the disease is not too far advanced, a considerable amendment begins during the progress of the voyage, but if the constitution has been so weakened, that dropsical symptoms have ensued before setting out, the patient generally arrives in that infirm health which requires other assistance than the climate alone to renovate him. In this case the use of mineral waters, particularly those of a chalybeate tendency, are strongly pointed out, and will prove a certain means of recovery, with the assistance of bathing, if properly employed, and if no affection of any principal organ has yet taken place.

With

With this view the Bath waters are commonly resorted to, and in the first instance, as a weak chalybeate, they are properly employed. They should be begun in small quantities, so as to produce no uneasy affection of the head, or induce any degree of general fever. Costiveness, one common attendant of their use, is to be avoided by a few grains of rhubarb, or by other mild laxatives the patient may be accustomed to. The temperate bath is next to be conjoined with this course, and its degree of heat is to be gradually diminished as the patient becomes able to bear a lessened temperature. Should the progress of recovery be rather slow, the patient may remove his situation, and employ a stronger chalybeate.

The powers of the Tunbridge waters as a chalybeate are great, and should they have the effect of increasing the tone of the system too rapidly, or of bringing on something of an inflammatory tendency, it may be proper to intermit their use occasionally, or to prefer a saline chalybeate, as the waters of Cheltenham, where their effect is counteracted. By this plan, and the residence also in a more temperate climate, joined with freedom of exercise, and that change of diet which here takes place, the invalid of the warm region will be soon restored to his natural vigour, which the torrid zone and its baneful influences had destroyed.

3. PALSY.

Another disease which comes under this head is palsy, formerly among the attendants of age, but now we find it attack every period of life, and youth or the prime of

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manhood

manhood is as often its victim as the period of decline.

The symptoms of palsy are so well known and conspicuous as to stand in need of no description. Whatever may be the cause of this disease, a loss of energy in the brain, and its extension to the nerves of the parts affected, evidently prevails; and whether this state consists in actual weakness, or obstruction, or rather in both conjoined, the one as a consequence of the other, it is not our business here to enquire. Medicine has attempted to relieve this morbid state, by various modes of stimulating the system, as well as the diseased parts, and by the occasional removal of accumulation where a fullness in the head was conspicuous. These modes of treatment, however, have seldom been attended with much success, and connected with our present subject we shall point out one essentially different.

As the state of palsy is evidently connected with a diminished action in the small vessels of the surface, as well as a loss of tone in the nerves, the application of heat to the skin, as a universal and powerful stimulus, is clearly pointed out, and no means of applying it can be so useful or so proper as the *warm* bath. Since it is clearly proved also by the increased volume of fluids while in the bath, and by other circumstances, that during its use an absorption takes place; from this additional fact, the medicated bath becomes next indicated in preference to any other.

When we next consider, that the loss of power in palsy is greater than in any other disease, the warm
bath

bath of the highest temperature becomes necessary, to excite the system, and one possessing also the most active impregnation. Hence no use should be made of the bath in this disease at a temperature under 116, and we are convinced, that the failure of success arises chiefly from this cause. Thus Dr. Saunders very justly observes, that the Buxton water, the temperature of which is only at 82, is never serviceable in paralytic cases. Of the British minerals, Bath is the only one that possesses this temperature, that of the King's bath, when first drawn, being 116, and of the Cross bath 112. Part of this temperature is even lost, as it descends into the bath, which is seldom found to exceed 106, and often falls to 92. In this way, though Bath is the highest mineral in temperature in this country, it by no means equals some of those on the continent, and we can thus account for its inferior success in the cure of paralytic affections. With respect to its medicated powers not much is to be expected, as the stimulus of sea water, if raised to the same height of temperature, we are convinced, would be still more powerful.

From this view, then, the first indication we lay down is to increase the general action of the surface, and remove obstruction, by the use of the warm bath at the highest possible temperature which a natural spring possesses; and it is upon the suiting this state of temperature to the degree of diminished action from the disease that the success of the remedy depends. The Bath water, therefore, should be employed by immersion twice or thrice a week at first, being regulated in this by the degree of excitement it seems to

produce, and being also regulated in the length of time during which it is applied, by the same criterion, for, although from ten minutes to half an hour is mentioned, this is by no means the proper mode to proceed by, but to be directed entirely by the particular state of the malady, attending always here to have the bath of the highest temperature it can be procured. On removal from the bath friction is also here of more use than in any other disease, and the joining it with some stimulant unctuous matter, especially to the diseased member, would prove a useful addition. In doing it, however, attention is to be paid, that no exposure to cold takes place, to lessen the general and necessary increase of temperature acquired by the bath.

As palsy, we before observed, is often attended with accumulation, or fullness in the head, previous to the use of any course of medicine it will be proper to attend to this important circumstance, and also to extend the same attention to it during the progress of the course. Another indication, therefore, presents here, in treating palsy, to remove or prevent such accumulation, and this is chiefly to be effected by a proper regard to the state of the bowels. In paralytic cases it is well known that the general loss of tone in the system is strongly displayed in the bowels, and a slow, or impeded action of them takes place. Hence the strongest drastic medicines become necessary, as gamboge, scammony, cletarium, &c. and to obviate this costive state is of the greatest consequence to render other means successful. The removal, indeed, of a small quantity of blood, by cupping, from the head, may be occasionally necessary in certain habits

habits where this state of the bowels has not been early attended to, but this application should always, if possible, be avoided.

But though the general stimulus of immersion is sufficient for the action of the system at large, the loss of tone in the affected member often requires additional energy to be employed to raise its more torpid powers. Another indication, therefore, presents directed entirely with a view to this part; and on the intermediate days, when no general immersion takes place, what is termed dry pumping should be applied to it, or what is still preferable, the use of the air-pump vapour bath. From the strong powers of this remedy in applying heat in its most active form, and also in removing atmospheric pressure during its application, thus allowing the parts to rouse themselves by their own energy as it were, the best effects will be found to arise, and which Dr. Blegborough's cases seem to confirm. This indication, then, to excite powerful increased action in the part, is one equally important as the others; and so much has it appeared so to all practitioners, that a variety of stimulant applications have been employed at all times for this purpose, but none of them, either in ease of application or in effect, can equal that we have now recommended.

While thus a general stimulus is maintained by a powerful application of heat to the surface, and still more strongly to the diseased part; while, at the same time, partial accumulation, or fulness in the head and bowels, are prevented from forming, which might coun-

teract the beneficial consequences resulting from these measures ; we are next to consider that this general stimulus is only promoted by an application of a temporary nature, and that the good effects thus obtained must be preserved by other additional means, or by internal medicines, with the assistance of regimen.

The internal medicines required here are those of the purely stimulant kind, and the proof of the propriety of their use we draw from the fact, that palsy is often cured by the attack of fever, or by that general increased action which attends it. Of the pure stimulants, perhaps the capsicum is here the most proper, made up in the form of pills, and covered so as to be easily swallowed. The ginger is also of the same kind. All compound medicines are of no use, nor those of a volatile stimulant kind. The principle required in their action is clear and decided, and that is all that is necessary to regulate our conduct.

The diet should correspond with this plan. It should be light, easily digested, but still of a stimulant nature. All fermented liquors should be avoided, and the plain simple element of water should be the chief beverage.

A course conducted in this manner will be more completely successful than any other that has yet been attempted.

Before dismissing the subject, two other species of palsy require to be mentioned, arising from known causes, the application of lead in the one case, and of mercury in the other.

METALLIC PALSY.

1. *From Lead.*

The first is that which often follows the Devonshire colic, or comes on without it. It is peculiar to those professions that work in lead, as painters, plumbers, &c. As it is the mark of a very advanced stage of the disease, the prospect of cure is too often uncertain. Oils, while they lessen the action of the poison on the first passages and do service as a palliative, do not enter the system at large, so as to counteract its effects there. The same may be said of sulphur in its natural state. The indications pointed out here are to restore the energy of the part, and at the same time to counteract the cause of the evil. For the second of these purposes the medicated nature of the Bath waters is not sufficient, however proper they may be to answer the first intention in point of temperature. We must, therefore, in place of them have recourse to a sulphureous mineral, from the known property of this substance in rendering the operation of metallic substances inert, and in this view the Harrowgate water particularly offers itself to our notice. In using it for this species of palsy, it should be employed, if possible, in the form of a warm bath, in the same manner as described in the use of the Bath waters; and the external use of it should next be assisted by exhibiting it internally in moderate doses, and warm, so as to keep up the effect produced by its application to the surface. These effects should even be promoted farther, by con-

fining the patient to bed for some hours after immersion wrapped up in flannel.

The sulphureous minerals in Britain possess, unfortunately for patients under this complaint, too low a temperature to be so eminently beneficial as those on the continent, particularly the Aix la Chapelle waters, and even an artificial increase of temperature is not found equal in its powers to the natural bath.

If by this plan the disease should considerably abate, the use of a mild chalybeate in the end may be resorted to, to restore the vigour of constitution, and the mode of life which has given rise to it must be entirely changed.

2. *From Mercury.*

The second species of metallic palsy is that from mercury, under which we do not treat that which is common to the workers in the mines, but another species, which is the consequence of this metal taken as a remedy for the venereal disease. The powers of mercury over the venereal poison are well known, and whatever may be urged by medicine venders, or interested practitioners, to the contrary, it remains the only certain antidote to counteract that baneful disease, which poisons the source of life, and puts an effectual curb to the limits of sensual gratification. As the powers of this medicine, it is well known, are of the most active nature, so the object of all judicious practitioners has been for a length of years to conduct a course of it in such a manner as to root out the disease, and not irreparably injure the constitution. But while this has been the practice of the regular profession,

fession, and while the best effects have followed its application, this disease, it must be remarked, falls oftener into the hands of the empiric, and of course the unhappy sufferer, under a specious delusion of safety and expedition, is exposed to all the consequences that ignorance and want of candour produce. In particular constitutions of an irritable nature, and where the patient has been unguardedly exposed to the morbid effects of cold and moisture, from not being properly advertised of the danger of his situation, palsy of one side frequently takes place. It is thus we every day see in walking along the streets, the flower of youth, the prime of manhood and health, too often dragging after him a lifeless limb, and cut off from every active exertion in future, in the first of his days. It is only in this way we can account for the increase of palsy of late years among the young and robust. Not but that a predisposition does exist in such as are so early attacked, which, without the intervention of such accidental cause, would have shewn itself at an advanced period of life. The treatment of this species of palsy falls to be conducted in the same manner as the former from the poison of lead; and the power of the sulphureous mineral will have here more success, as depending on a cause not so long applied as in the former species, and by which the constitution has not been so much exhausted. On appearances of recovery a chalybeate is to be resorted to, which gives the constitution, if not the whole, a good part of its pristine vigour.

4. GOUT

is a disease for the relief of which a resort to a watering place

place has been much recommended. This malady, it is well-known, attacks in fits, or paroxysms. It has formed one of the great reproaches of the profession, from the earliest ages to the present time; and the first practitioners despairing of success in its cure, have resigned its treatment to flannel and patience. The symptoms of this disease are marked by acute pain in the smaller articulations or joints of the hands and feet.

It is mostly confined to the chlorico-sanguine temperament, or those who have a large head, large robust body, and corpulent habit; and, for the most part, attacks only the male sex; yet sometimes also the more robust females suffer, though not till after the age of thirty-five; when occurring earlier, it arises from a hereditary taint, and the chief period of its attack is from the age of 35 to that of 65.

The paroxysms of this disease, though often appearing suddenly, are generally preceded by a suppression of certain excretions, as sweat in the feet, and unusual coldness of the extremities, their frequent numbness, cramp of the legs, &c. with a particular sense of flatulency in the stomach, and indigestion, but the latter symptoms depart the day immediately preceding the fit, and the stomach feels, as it were, in a more healthy state.

The fit itself generally commences early in the morning, with a pain affecting one hand or foot, often in the first joint of the great toe; a rigor and other febrile symptoms attending: through the day, the pain suffers an exacerbation, or increase, gradually remitting about the same time next evening that it began, and entirely

tirely ceasing with a gentle sweat, when sleep is permitted, and a redness and swelling is perceived on the part.

A repetition of the same pain happens frequently in this manner, for several days before its final departure; and when it goes off, the parts affected become itchy, the cuticle scales off, and a lameness is felt, proportioned to the severity and duration of the disease. At first the paroxysms occur only in three or four years, thereafter they become annual, and increase gradually, till the joints lose entirely their motion, and a calcareous matter is generated in them; after which the disease may be said to be constant, and instead of confining itself to the joints, it attacks other parts of the body, ending in apoplexy, palsy, asthma, &c. according to the particular vital parts that then become its seat. Hence from this variety in its history, the disease has been divided into different species, according to the mode of attack, the progress of the fit, and the part it seizes, and different appellations have been assigned them.

Those long subject to gout, possess also more or less of an affection of the kidneys, arising from calculous concretions there, and this affection alternates generally with the paroxysms of the former disease.

To direct our opinion, it may be observed, that the fit is generally shorter in proportion to the violence of the febrile symptoms, and the longer intermission; that acute pain is more favourable, by shewing the affection confined to one place; and that in youth a cure is more easily to be expected than in old age, or where the disease is hereditary, and tophi or concretions formed.

Its causes are good living, nocturnal debauches,

especially in the use of acid and austere drinks, want of exercise, or too much of it where the disease is once begun, a lax moist habit, immoderate venery, suppressed evacuations, affections of mind, cold applied to the extremities, &c.

From this view of the disease it is clear, the frequent recurrence of it, and the morbid consequences induced by its attacks, both on the constitution and the seat of it, are the great points to be guarded against. Hence, three indications naturally present with this view; the 1st, to shorten the fit; the 2d, to prevent its repetition; and the 3d, to repair the ravages already made by the disease.

From the description of the symptoms and progress of gout, it appears a disease, on its first attacks, of a highly inflammatory nature, conspicuous only in certain constitutions, and making its attack only after a certain period of life. No doubt, therefore, can be entertained, whatever some modern writers may assert to the contrary, of its being of a general and constitutional nature, and though the use of mineral waters may be proper after the first stages of the malady are passed, and what is termed the atonic state has commenced, they are by no means suited as a remedy in its early progress. It is equally clear the inflammation of gout is of a peculiar nature, that connected with the inflammatory action of the joint a morbid secretion is formed, and that till this matter is removed from the part, or at least the obstruction that occasions is relieved, no termination of the fit can ensue. The benefit also derived from the use of alkaline medicines is another proof of this morbid secretion;

tion ; while the palliative tendency of bitters to prevent the recurrence of fits, affords additional evidence of this inflammatory state being connected with constitutional debility.

From the effects of the disease on the constitution in undermining the general health, the great point, as marked out in the first indication, is to shorten the duration of the fit or paroxysm. From the symptoms of the disease, this paroxysm we find attended with fever, as well as inflammation of the part ; the first step then that naturally occurs, is to lessen the increased temperature of the body, the chief cause of fever, as well as that in the part. The first, however, requires to be executed with some limitation. That a cool regimen is proper to a certain extent cannot be doubted ; but as the fit shews always a tendency to terminate by an increased perspiration, an attention to preserve the skin in a free perspirable state is highly essential. Hence a moderate warmth is the best mode of proceeding, and the use of mild diaphoretics should be employed, such as the saline jalap, with a small proportion of tartar emetic, or James's powder.

From the account of the disease, the stomach or bowels we find always particularly affected, both as a symptom preceding the attack of the fit, and also during its progress ; an attention therefore to the state of the bowels will form another powerful means of diminishing the increased temperature of the body, and if the bowels are not in a soluble state, laxatives of a cooling nature are to be exhibited. While this plan proceeds, the other parts of the regimen must conform to it, at
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the same time the habits of the patient must not be broke too much in upon, and the powers of the stomach preserved, from the danger of increasing that constitutional weakness which forms the foundation of the disease.

Along with this general treatment, a particular attention must next be paid to the morbid affection as seated in the joint; and as the inflammation and its obstruction are there present in the highest degree, every means of lessening its temperature, and inducing relaxation, are to be had recourse to. Various means have been employed to execute this, which it would be unnecessary to enumerate, and two of these means only fall to be noticed, the application of a very high or a very low degree of temperature. The latter of these, or a continued use of cold water to the part, until the abatement of all inflammation, redness, and pain, has been strongly enforced, and proofs of its success advanced. That the fit may be suspended by this means we have no doubt, but this plan of treatment we shall find will produce only its suspension, and that a more frequent recurrence of fits will attend the application. From the tendency which the disease shews, as already observed, to terminate by an increased perspiration, it is naturally pointed out that every method of favouring this should be more particularly employed to the part. Of all means hitherto thought of for this purpose, none have been found so powerful as the use of steam, or that high degree of temperature which water possesses in that form. The best apparatus for applying it is the air-pump vapour bath, which has been already noticed,
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and the method of using it pointed out. Here it is attended with the happiest effects, by completely removing obstruction, and inducing such a relaxation as to carry off the morbid secretion remaining on the joint.

Such are the principal means to be employed against the attack of this formidable disease in order to shorten the fit, and suspend its progress. While the constitution is yet strong, while a tendency to much inflammation prevails in the habit, and while the disease has made little or no inroad on the general health, no other treatment will be necessary than that already directed; but if, on the contrary, from repeated attacks the health has become greatly impaired, and the limbs have become much weakened, or lost their motion, while the stomach, bowels, and many of the principal organs are occasionally attacked with spasmodic symptoms, showing the seat of the disease transferred to the nobler parts, in this atonic state of system some difference of treatment becomes necessary, with a view to prevent the increasing debility, and the constant presence and pressure of the malady.

It is in this situation, or against the long continued ravages of the gout, the use of mineral waters becomes indicated, and those of the highest temperature are certainly the most proper for this purpose. In such cases, as the general vigour of constitution is wanting on the attack of a paroxysm, that fever or increased action of the system necessary to fix it in the extreme parts or joints cannot be brought to take place without artificial assistance. No means can be so useful to effect this as water of a high temperature, from its
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diffusible nature, especially when it possesses stimulant powers from its medicated quality. Hence Bath and its waters have formed the retreat of all gouty patients, when worn out and tired with the inefficacy of other medicines.

In directing the Bath waters here, their internal use should precede for some time their external application, particularly if wandering pains discover any tendency to a regular attack. As soon as that is commenced, the use of the bath may begin, and during the paroxysm it should be entirely confined to the part, and be applied either by dry pumping, or through the medium of the air-pump vapour bath. Where no particular attack seems to threaten, both the bathing and the use of the water may accompany each other. In this stage of the disease every means of fortifying the internal system are recommended, and a full generous diet, with the use of wine and cordials, employed. The occasional symptoms of spasm, particularly in the stomach and bowels, are to be relieved by the most powerful antispasmodics, as the warm balsams, and even *ether* and *laudanum*; nor must the application of heat be omitted in this detail, for while cordials are exhibited internally, a bladder filled with warm water, heated from 110 to 115 of Fahrenheit, should be applied to the seat of the spasm, which will possess very powerful influence in overcoming it.

To produce their full effect in a tonic gout thus described, the Bath waters must be long continued, and their use occasionally intermitted, as the health seems somewhat established. Hence, in this last stage, gouty patients find it necessary to visit every season this

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seat of health, and for a few months to repair here the ravages which the intervening time may have produced, and there is no doubt that they will always derive considerable relief from this temporary use of these waters.

Besides Bath, Buxton has been celebrated for the palliation of this disease ; but its powers are not equal to those of Bath, as they want the high temperature which the Bath waters possess, being only at 82, which is a temperature unfit for a gouty patient to be applied externally; and its impregnation is not so powerful as that of Bath for internal use. Some foreign minerals we indeed find more powerful than either, as, independent of their impregnation, their thermal quality is much greater.

In this way is the first indication performed in the treatment of gout to shorten the duration of the fit, or suspend its progress both in the first attacks of the malady, and after the constitution has been materially injured by its ravages. The second indication, or preventing the frequency of the recurrence of fits, is chiefly to be executed by the same means, joined in the first stages of the disease with a particular attention to regimen. Of all the causes which tend to induce this disease, none is so frequent, or so powerful, as the use of fermented liquors, and an abstinence from them forms always an important part of regimen. If the constitution is yet sound, and the stomach and bowels in a regular state, this restriction may be formed without any disadvantage; and the patient, who has the resolution

lution of doing so, will find his fortitude in this respect abundantly repaid by the absence of pain, and its attending inconveniences. Water is, of all liquids, the most proper beverage for the gouty, and the softer it can be procured as an article of diet, the more proper it will be. But if, on the other hand, the disease has made considerable progress, and the stomach and bowels are no longer in that active state which marks the proper exercise of their functions, then a moderate use of fermented liquors must be permitted, and the patient allowed some part of usual indulgences. But even in doing this a selection of fermented liquors should be made. They should be taken as much as possible deprived of fixed air, and every tendency to acidity should be counteracted as much as possible. For this reason, the stronger bodied wines, as Madeira, have been generally recommended, or diluted spirits or alcohol in their place.

If such restriction is necessary in regard to drink, the same is no less necessary in regard to aliment. Animal food, by stimulating the system too much, clearly tends to bring on as a consequence that state of debility which induces the disease. The same observations, therefore, may be extended to it as to beverage, and the present state of the patient's health must determine the degree of restriction. The more that an abridgement of animal food can be made, the more the patient will find himself freed from the attacks of the disease. But the state of the stomach and former habits must regulate the extent of it entirely, and every patient can judge of this for himself, and from his own feelings, better than
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by any rules that can be offered him. The general principle of preventing too great excitement in the system, and the consequent debility which is about to ensue, as inducing the disease, is what every patient should hold in view.

The same restriction will extend to avoid or limit many of the other exciting causes which have been enumerated as giving a disposition to the attacks of the disease, and none more so than the application of cold and excess of venery. So powerful is the effect of the first, that a sense of cold, and other marks of diminished temperature, always precede the commencement of a paroxysm, and the disease we know is both milder in a warm climate, and is in some of the eastern countries even unknown.

In regard to the latter, when we consider the influence of the seminal fluid, in giving tone and vigour to the system, the expending it profusely at that period of life when the system is passing towards a state of weakness, cannot fail to be attended with the most injurious effects; and hence a paroxysm of gout is known immediately to follow an excessive indulgence of the venereal passion.

Though the third indication is properly included in the general plan of treatment already laid down, and by its execution the ravages of the disease may be somewhat repaired, yet there are particular morbid symptoms, the treatment of which we shall consider under this head. These are the flatulence, indigestion, and other uneasy symptoms of stomach which accompany the

the disease. That these symptoms are much relieved by the use of the Bath waters is well known, and as it would appear that this relief arises more from the portion of azotic gas or vapour they contain than from any other part of their impregnation, so that an attempt might be made to give still greater relief by preferring another mineral, which contains a still greater proportion of this matter, and increasing its temperature to that of the Bath mineral. The quantity, however, of azotic gas in any water is difficult to detect, as it is looser in its adhesion than any of the other aeriform bodies, and is more readily expelled from them by heat. An artificial impregnation therefore might be tried to increase its quantity, and the success of this will be found to answer those anomalous affections of the disease, which attack the head and bowels, as well as the stomach, and which require, in order to their removal, such an increased action of the system, as may determine the threatened paroxysm to its proper seat in the extreme parts, or the joints.

To conclude our opinion of gout from its constitutional nature, its attacks are only to be prevented by an early and rigid restriction of regimen, where the habit is predisposed to it. Where it has once commenced, an adherence to the same plan will prevent the frequent recurrence of fits. The treatment in the first stages of its attack consists in viewing it as a general but peculiar inflammatory disease, which, while it admits the cool regimen like the others of that class, requires also some attention to the tendency it displays to terminate
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in an increased discharge by the skin, and the local treatment of the part must proceed on the same principle. Where the disease has existed long, and the constitution has suffered under its ravages; a modification of the general treatment must then take place, and the simple plan of palliation be adhered to. This plan consists in shortening the duration of the fits, fixing them also in the extreme parts, and attending with care to preserve the vigour of the internal system. This last part of the treatment is chiefly effected by the internal and external use of mineral waters, which must possess, to be effectual, a high degree of temperature, and possess at the same time a greater portion of azotic gas than any other impregnation. Hence in this country the Bath waters are against this state of the malady the most useful.

RHEUMATISM.

The next disease that falls under our notice is one of most frequent occurrence in this country, even more so than gout, and while the latter confines its outrages to the smaller joints, and attacks chiefly the tendinous and ligamentous parts; rheumatism, on the contrary, fixes its seat on the larger ones, and extends its violence along the muscles, or those parts of the fabric subservient to motion. We define it, therefore, a disease consisting of wandering pains that affect the larger joints, especially those of the hip, knees, shoulders, and elbows; shifting in the course of the muscles connected with them, and much increased on motion. It is divided into two kinds, the acute and chronic; and this division

sion is necessary to be observed, on account of their difference of treatment.

The acute kind occurs most commonly from the age of puberty to that of 35. It is most frequently met with in the sanguine temperament, being peculiar to a variable climate, and attacking men oftener than women, at the seasons of spring and autumn, when vicissitudes of heat and cold take place; and the right side of the body, as has been observed, is oftener the subject of this disease than the left.

Its causes are the sudden application of cold, when heated, changes of weather, and excesses inducing a plethoric state; but 99 cases of the 100 arise from the two former causes.

In the acute kind, it is generally attended with inflammatory fever; and its first symptoms begin with a considerable rigor, in which the pulse is hard and full, and the other febrile appearances attend, though the head is generally clear, and no internal sickness of any kind prevails. An exacerbation also takes place every evening, and during the night the pains are most severe, shifting their situation, and leaving behind, on the part affected, a degree of redness and swelling.

When the fever departs, a degree of pain and stiffness is frequently felt in the joint, which recurs on changes of weather, without fever, insomuch that such patients, from their feelings, can prognosticate it; this constitutes the chronic kind, and often continues, with intermissions, for the remainder of life.

Our opinion is seldom unfavourable in this disease, unless

unless an affection of some of the principal organs attends; and the crisis is either by sweats, a hemorrhage, diarrhœa, or an eruption of the skin; for it differs from all other inflammations, in a suppuration seldom occurring, though sometimes there is a serous or gelatinous effusion.

From this account of the disease, we find it divided into two species, similar to what we have had occasion to remark in gout. The one, the acute species, is entirely to be considered as an inflammatory disease, and its treatment conducted on the common principles of treating inflammation; the latter of a chronic nature, and that species which properly claims our consideration here.

In all cases of chronic rheumatism, such a morbid change takes place, that the muscles with difficulty perform their office, that both the excretion of the skin is interrupted, and also an organic alteration of structure ensues, by which the muscles lose their aptitude for motion, the proper function assigned them. To counteract this state of disease, the indications that naturally arise are,

1. To remove the obstruction in the seat of the disease.
2. To prevent any organic change there, or obviate it if it has already taken place; and,
3. To guard in future against the recurrence of the same morbid state.

For the two first of these indications, the external use of mineral waters has been highly recommended, particularly those of Buxton and Bath. Hence it has been
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common, after an attack of acute rheumatism, and the chronic state has commenced, to resort immediately to the Buxton bath, which often affords most wonderful relief. The temperature of this bath is not greater than 82, but the use of it is succeeded, as formerly remarked, by that highly soothing, and pleasurable glow, which gives the feeling as if the surface were anointed with warm cream. In the preference, therefore, which is given to it in this disease, we should regulate our opinion entirely by the degree of the morbid state, and the length of its duration. There is no doubt in recent cases this temperature will be sufficient to answer every good purpose, but in other instances of long standing, and where much local derangement has taken place, similar to what occurs in gout, a more highly increased temperature must be preferred. The Bath waters will afford a more successful retreat to such patients, and the plan to be followed may be thus directed:--The patient under chronic rheumatism should employ the bath externally, of as high a temperature as in gout, in the first instance, and as one member is generally more affected, here dry pumping should accompany this to act more powerfully on it. This use of dry pumping should be succeeded by a proper application of friction, assisted by oils. As relief is obtained, the temperature of the bath should be gradually lessened, and in the progress of cure the patient may then remove from Bath to Buxton; and having for some time employed the waters here in the same way, he will be enabled to complete his cure by the more powerful means of sea-bathing, or the common cold bath in the end. During this plan, the
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internal use of the waters is not omitted. Rheumatism evidently appears a disease that attacks certain constitutions in preference to others, and that state of habit in which it prevails, often shews a tendency to cutaneous eruptions, marking a fault in the fluids favourable to the exhibition of mineral waters. But, instead of Bath or Buxton, the sulphureous waters, in this disease, are often preferred, and perhaps with justice. The connection between rheumatism, now hinted at, and the appearance of cutaneous eruptions, in which the sulphureous minerals are so eminently beneficial, gives a just argument for this preference. The Harrowgate water, therefore, will be found here of the greatest benefit in the form of bath, and its temperature should be increased as much as possible. It will also have a decided advantage over the other waters when exhibited here internally. It is from the want of the high temperature, which distinguishes the foreign sulphureous minerals, that we are less successful in the cure of the present complaints than on the continent. The sulphur, the active ingredient, requires a high degree of temperature in order to its complete solution; and so high is the temperature of the waters of Aix la Chapelle as to afford the bath even in the form of vapor.

When once recovered, the recurrence of chronic rheumatism is to be prevented by the continuance of the same plan, in part, as the occasional use of a sulphureous mineral internally, and externally guarding against the effects of cold and moisture, the immediate causes of the malady.

LOW SPIRITS, OR HYPOCHONDRIASIS.

Though this is a particular species of what are termed nervous complaints, yet it is more a disease of the mind than body. On that account it requires a separate consideration, in order to ascertain how far the bodily feelings can be relieved by the aid of medicine.

Hypochondriasis, or vapors, is a certain state of mind along with dyspepsia, from slight causes apprehending the greatest evils, and always imagining the worst; yet perhaps it differs little from dyspepsia, but by its occurring in the melancholic habit.

It occurs chiefly in the male, and that in advanced life, being confined for the most part, to those of a melancholic temperament, who are distinguished by a lean habit of body, large rigid veins, and black curled hair, while their peculiar character of mind is a slowness of decision, given to doubt and caution, with great tenacity of opinion, strength of application, and a moderate extent of genius, a natural melancholy prevailing without any disease.

The difference betwixt this disease and dyspepsia consists in constitution, the latter occurring most frequently in youth, or from puberty to 35, and depending on debility; while the former prevails in age, and is more an affection of the mind. Its attacks are most severe in spring and autumn, and its victims are less subject to the effects of contagion.

Its cause seems to depend on a loss of energy in the brain, or a torpid state of the nervous system; and
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though the connection between the mind and body is difficult to explain, it is observable that, in youth while the solids are lax, the mind is changeable and inconstant; that they gradually acquire a proper firmness, in proportion as years accumulate, when a degree of rigidity in the fibres prevail. Hence, as this rigidity is most conspicuous in the melancholic, a torpor is at this time naturally induced, which is favoured by former excesses in mode of life, such as anxiety of mind, intemperance of study, immoderate venery, &c.

Our opinion in this disease is much the same as in hysteria. Of itself it is not dangerous; but if long continued, scirrhus of some of the organs comes to take place.

This disease is particularly the subject for a resort to a watering place. The infixed ideas and deranged feelings of which it consists are to be much relieved by that variety of scene and amusements which watering places afford, and the bodily symptoms, especially the affections of stomach, are to be much palliated by the internal use of the mineral waters themselves. In the choice, therefore, of a watering place for hypochondriac patients, these two circumstances are to be attended to, to combine a situation that affords most variety of scene and amusement, of that scenery to which the person has been least accustomed, which of course may strike and engage him by its novelty, with a mineral impregnation, or water that is powerful in relieving the bodily uneasiness to which the state of stomach and bowels is subjected.

The state of stomach has been found much palliated both by the acidulous and sulphureous minerals, and, therefore, a wide range is permitted the patient in the choice of the situations he may resort to. In the use, however, of any mineral water, one effect must always be produced by their operation, that is, it must pass off by the bowels, and if this does not take place, such additions must be made to any water as to produce this consequence. The habitual costiveness of hypochondriac patients increases every symptom of their disease, and hence the use of the simple saline minerals is often attended with the greatest advantage to them, by preserving the bowels in a soluble state. Thus, on one of these waters, Dr. Saunders observes, when the presence of hypochondriasis is marked by anxiety, general languor, perturbed dreams, a livid hue in the face, difficult breathing, pain of the back and head, vertigo, and coldness of the extremities; when a bilious humour and depraved secretion of the stomach impairs its tone and healthy action, and is attended with obstinate costiveness, this water, by evacuating its contents, and restoring the due force of contraction, enables it to throw off the offending matter. When aloetics and the more drastic purgatives are given in these complaints, either by the mouth or in glysters, the costiveness and flatulent distension of the abdomen return directly after their operation, and even some of the milder aperients are not without this inconvenience; and rhubarb, which in other respects is the best of these, is too slow in its effects. But this saline water is excellently fitted to fulfil the cu-
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rative plan; and persons who for a length of time have had no evacuation from the bowels, except such as has been procured by the stronger purgatives, by using for a while the water of a salubrious saline spring, have found so great a change, that the intestines have returned spontaneously to their healthy and natural functions.

MENTAL AGONY.

Before dismissing this subject of hypochondriasis, an uncommon species of it I shall insert here, as occurring in the case of a patient I had lately occasion to visit, and who had been attended by my friend Dr. Crichton, whose attention to mental diseases is well known. This species is termed by the patient himself, from the excess of his feelings, a mental agony, and it may be defined, perhaps, a state of morbid feeling, which does not rise to the height of madness; and is also different in many leading symptoms from the nature of real hypochondriasis. This state cannot be better described than in the pathetic language of this patient. It begins, he observes, by feeling an unusual despondency of mind, which gradually increasing, settles into a stupor of the head; the fits of this stupor are temporary, but the state of mind continues unabated, so as to produce a real *tedium vite*, or disgust at life; and the affections of the mind, whatever they are under this state, become more rooted, and continue to increase instead of diminish.

The fits of stupor are uncertain in their periods of attack, and the only relief experienced from them by the unhappy sufferer is to throw himself on a bed, being

tempted almost, during their violence, to dash his brains out, or to put a pistol to his head. Their termination is succeeded by a lassitude, listlessness, and total incapacity to attend to any concerns in life, which occasions the victim of the malady to shun society, and every thing he was formerly accustomed to relish and take pleasure in. Even though the stupor does not rise to the same height, yet the ideas become often confused, and the articulation impeded by lesser degrees of it. This state produces also a dread of any exertion, and the fear of rising from bed in the morning, will keep the patient, at times, awake the whole night ; even when the period of rising comes, it is deferred to the last lingering moment of respite that can be taken, when a fixed hour must be attended to.

Nor does the temper and disposition suffer less under its pressure ; from being docile and tractable, it is rendered irascible, ungovernable, and out of humour with all mankind. A degree of morbid suspicion is created by it, and the least seeming inattention, or slight, will throw the miserable victim of it into cold sweats for hours. The nearest connections and ties become either objects of dislike, suspicion, or hatred, and an unhappy and rooted idea often haunts the mind where the person is in affluent circumstances, with the dread of poverty : yet during the progress of all this malady, the judgment appears nearly as clear, strong, and energetic as at any other period of life. The recollection of past events continues unimpaired, but still, as the unhappy sufferer himself observes, his mental powers he thinks seem to decrease

decrease and fade, holding up to his imagination the similitude of a beautiful picture, partly, or entirely, concealed from the beholder by a veil or covering of gauze. The muscular strength suffers no diminution, the appetite is good, the sleep unabated; the patient is rational in conversation, yet restless, listless, and wandering from place to place; he himself finds that all is dark and gloomy within, every thing wearing a new face, attended by new ideas, new objects, and new desires.

Such is the description of a disease which differs both from madness on the one hand, and low spirits on the other, in many leading particulars, and seems, as it were, an intermediate affection. It is clearly connected with a diminished energy of the brain, but the means of relief are not so easy to be hit upon; "Who can administer to a mind diseased" is a common adage, but there is always a corresponding state of body with the state of mind, which, whether cause or effect, deserves a serious attention; and if this attention does not cure, it will at least lessen the violence of the malady. In the present affection, from every view of the symptoms, tonics are pointed out, and the selection of these will form the great secret in the cure.

As the diminished energy of the brain stands the prominent feature of the disease, the means most conducive to restore this energy falls to be considered. Of these means none seems so powerful as the shower bath, by the shock it conveys to the part, and the instantaneous vigour it must of course produce upon it, along with that exercise as a general tonic, is highly pro-

per, but it must be that exercise which engages the attention, either from voluntary pleasure or fear. Riding on horseback, therefore, or a voyage to sea, are most suited. In the first case, the patient should never ride the same horse twice, so that, by not learning its temper and habit, his attention may be always kept up in managing it. In the second case, the voyage should be performed in stormy weather, and if the patient suffers much sickness, it will be even an advantage. With respect to other parts of the treatment, narcotics, as laudanum and other opiates, however pleasing to the patient, should be avoided, for though they give a temporary relief and serenity, they increase the despondency of mind in the sequel which is the foundation of the disease. The same may be said of the use of wine or spirituous liquors, neither are they called for by any symptoms of debility of stomach, or loss of appetite. The diet should be plain, nourishing, and rather diluent, and of a vegetable nature.

Another part of the treatment which requires as great attention as the former, is the regulation of behaviour towards the patient. His own state engrosses entirely every idea of the mind, and though no external disease appear, this derangement of feeling is as much disease as the most striking and apparent change of organization. No harshness, therefore, should ever be shewn to the patient's complaints, or any doubt of the reality of his suffering. Tremblingly alive to every opinion connected with his sensations, the physician, or friend, who uses irony or mirth, loses immediately his confidence, and
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this is a necessary step on all occasions towards his cure. Sympathy and condolence should ever be employed towards him, and his mind weaned as it were from itself, rather by insinuation and kindness, than by any attempt at bantering, or force. The removal to a watering place will here be of the greatest consequence.

This disease is often constitutional. It is the attendant of those who enjoy the finer feelings and the powers of genius. It proceeds at times from too unwearied an attention to one subject, or from sudden and unexpected misfortunes. It is most prevalent at the meridian of life, and is apt to depart as the progress of age advances, and diminishes the acuteness of sensation. Though it may end in madness, it does not necessarily do so.

II.

From these general diseases of the system, which receive either palliation or cure by the treatment pointed out, we descend next to consider those local or organic affections, which, by their influence, produce also a state of disease in the system at large; but where, different from the former, the source of the mischief is centered in one point, to which we can always refer. These affections are numerous as the organs of which the chest and belly are composed, and they are all accompanied in a greater or less degree by that general state of increased action or irritation, which is known by the term of hectic fever. The first of these organic affections that falls to be noticed is that which attacks the stomach, and is distinguished by the usual term of dyspepsy.

DYSPEPSY, OR STOMACH COMPLAINTS.

The stomach is not only in itself an important organ from the peculiar function it is destined to perform, but it is equally so in another point of view, as being the center of sympathy to the whole body, and the harbinger that gives, as it were, the alarm when any other part of the system is in disorder. The intimations, therefore, of the stomach are at all times of the first consequence under disease, even its inclinations shew particular attention. The symptoms of what are called stomach complaints are very various, as the causes are so numerous from which they proceed.

INDIGESTION.

The symptoms are anxiety, wind in the stomach, a sense of constriction and uneasiness in the throat, with pain of the side or sternum, so that the patient can only lie on the right side, heart-burn, and acid eructations, squeamishness, and want of appetite; a sense of gnawing prevailing in the stomach when empty, and an inconstant state of belly, with palpitation, &c.

The number of these symptoms varies in different cases; with some being felt only in part; in other cases being accompanied with even additional ones, equally disagreeable, as severe transient pains of different parts, particularly of the head and breast, various affections of sight, as blindness, double vision, &c.

This disease chiefly affects the sedentary and learned, and that betwixt the 30th and 40th years. What peculiarly

peculiarly distinguishes it is its continuance, for a length of time, in the same state, without any aggravation or remission of symptoms.

Its causes are often obscure, but those mentioned are, the use of much vegetable diet, depressing passions, intense study, excess in venery, much use of warm diluents, the use of narcotics, excessive evacuations, frequent over-distension, and straining of the organ, cold and moisture, hence its frequency in this country, hereditary disposition, or a debility of stomach depending on its original consumption.

Our opinion here is generally favourable, though, at the same time, it is not easily cured; there is almost no instance of its proving fatal, without passing into some other disease: but in many the functions, by its continuance, become impaired; while, in others, they are little affected.

From the variety of causes from which these symptoms proceed, the treatment of dyspepsia cannot fail to require to be much diversified. Hence, in order to a clear view of this treatment, so far as the use of mineral waters is concerned, it will be proper to mark particular distinctions of this complaint connected with its special cause.

Stomach Complaints from High Living.

All stomach complaints, it is to be observed, are obstinate to remove, and require that remedies be steadily persevered in. Where dyspepsia arises from intempe-

rance, and high indulgence in living, one of the best remedies is a course of the Buxton waters. By their judicious use, the uneasy symptoms of heart-burn, flatulence, and sickness or weight at stomach, are gradually relieved. The natural appetite begins to return, and the general health and spirits of course to amend, a proof of the connection of the state of this organ with the whole animal machine. As the number of patients labouring under this species of the disorder is very great, so they form the most numerous class that resort to this watering place; this of itself is a sufficient proof of the relief they of course experience. In this complaint, it is the internal use of the mineral water alone that is to be trusted to, and unless other circumstances indicate there is no necessity for its external application. The quantity used should be brought to affect the bowels, and if not doing so, some gentle saline laxative should be interposed, for nothing is so hurtful in stomach complaints as costiveness, by preventing the organ, already in a weakened state, from exercising its functions, and thus confirming the very disease.

Stomach Complaints connected with Bilious Affections.

This species of dyspepsia, which is connected with a vitiated secretion of the bile, is generally the consequence of long residence in a warm climate; and besides this organ, it extends its effects also to the alimentary canal, and the whole of the hepatic system. In this disease, the constitution has generally materially suffered, and the treatment therefore requires to be conducted

ducted with much judgment and caution. For the relief of the symptoms of stomach alone, Bath waters afford a useful remedy, but it should be at that period when no tendency to suppuration is taking place in the hepatic region; and as a useful palliative, they may be even continued while other remedies are exhibited for the cure of the original hepatic disease. But this subject will fall to be again resumed. Aix-la-Chapelle waters afford a still more powerful palliative in this complaint.

Stomach Complaints from Repletion.

A species of dyspepsia is apt to occur in gross plethoric habits, about the age of 59 or 60, in which the stomach and alimentary canal display a torpor and sluggishness in the exercise of their functions. Here the saline minerals, or such as simply wash out, are reckoned of particular service; and a course of Epsom waters, or the occasional use of sea water, will be experienced highly serviceable. With this remedy a proper portion of exercise should be joined, which will carry off the redundancy of the system, and allow the functions to be regularly performed. If a plan of this kind is neglected, either dropsy, or a tendency to apoplexy is apt to ensue, according as the habit is phlegmatic or otherwise.

Stomach Complaints from Irritability.

Dyspepsia is a frequent disease in nervous habits from irritability alone, particularly in females of an hysterical habit. They are then marked by an impaired or capricious

cious appetite, and weakness of the assimilating organs, by irregular digestion, flatulence of belly, anxiety of chest, difficult respiration, and occasional vomiting of viscid mucus. For the relief of these symptoms, chalybeates offer the proper remedy, and the use of the Tunbridge water is one of the best chalybeates with this view. The course should be premised from the quantity of mucus which is apt to be collected on the stomach, with a gentle emetic, and the chalybeate will then be able to act with proper effect upon the organ. If the chalybeate should produce a costive habit, it will be proper occasionally to intermit its use, and clear out the bowels by some gentle purgative. With these precautions, and continuing the use of the waters a proper length of time, this species of the disease may be entirely got the better of. The course will also be much assisted by a proper employment of moderate exercise.

Stomach Complaints from Pregnancy.

That species of dyspepsia which attacks the early months of pregnancy much resembles the former, but the treatment is different. It is attended with the same capricious, whimsical appetite, joined with one symptom termed longing, which renders the complaint still more obstinate, by producing one infixed idea, on which the mind continues to brood. This complaint is worst in a first pregnancy. It is merely temporary, and attends the first three or four months, but the symptoms of indigestion, sickness, and vomiting, rise after to such a height, as greatly to exhaust the patient, and threaten abortion. Absorbents and stomachics occasionally palliate

liate the symptoms. The best remedy is the use of a highly acidulous water, and Seltzer has been much famed for this complaint. In place of it the Bath or Bristol may be used with the same view, and the resort to a watering place, by the change of scene and amusement it produces, will be equally useful as the water itself. In this complaint particular attention is necessary to the state of the bowels, which should be always kept clear and regular, and by a plan of this kind the symptoms will be completely palliated, even in the worst cases, till the period of attack is over.

The other cases of dyspepsia, which arise from gout, hypochondriasis, &c. have been already treated under their respective heads. The temporary debility arising from a debauch is quickly relieved by a strong acidulous mineral, particularly a draught of Spa or Seltzer water.

SPITTING OF BLOOD.

From the stomach we proceed to examine the affections of the next organ, or the lungs. This organ is so immediately connected with the existence of life, that the shortest suspension of its functions produces death, both by preventing the regular circulation of the fluids, and also by interrupting the supply of that something drawn from the atmosphere, which is so essential for effecting the change necessary to the continuance of health in the fluids of the system. The affections of this organ that fall within our present plan are two, spitting of blood, and consumption, both occurring in the same habit of body, and the one generally, though not always, terminating in the other.

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The symptoms that mark the first of these affections are a discharge of blood from the mouth, of a florid colour, brought up with more or less coughing, preceded by a rigour and other feverish symptoms, with anxiety, and a sense of weight about the precordia, often pain externally in some part of the thorax, attended or preceded by a saltish taste of the saliva, and a sense of heat under the sternum, or breast.

It depends on a rupture of blood vessels in the lungs, and though it may be occasioned by external violence at any period, yet its attacks are most frequent from the age of 16 to that of 35. Its attacks prevail in those persons where a faulty proportion, either in the vessels of the lungs, or in the capacity of the chest, is conspicuous: being distinguished by a narrow thorax, and prominent shoulders; and in those also who are of a delicate make, and a sanguine temperament, with a long neck, who, in their dispositions, are possessed of much sensibility and of acute genius. But this disease, at the same time, may occur in any constitution, where suppressed evacuations have taken place.

Its causes, in such constitutions, are external heat; hence it frequently appears in the end of spring, and beginning of summer,—changes of atmosphere, violent exercise in respiration, suppressed evacuations, &c.

Of all the hemorrhages, it is the most dangerous, though it seldom flows in such quantity as to be immediately fatal at once; and our opinion is more or less favourable, according to the habit and age at which it occurs, and the causes inducing it. It is less to be dreaded

dreaded in youth, but there is hazard in weak constitutions, and in those who have been previously debilitated, of its ending in consumption; the appearance of epilepsy, or hiccup, are fatal symptoms.

Where this disease proves fatal, in consequence of the hemorrhage, the effusion is generally from some of the larger vessels; and the cavity betwixt the lungs and pleura, on dissection, is discovered full of blood, so as to check entirely respiration, and the substance of the lungs is inflamed at the place of the laceration. Where the progress of hemoptysis is slower, and terminates in pulmonary consumption, the morbid appearances of the lungs will be found under that disease.

From this view, spitting of blood is a disease peculiar to a certain constitution, most apt to occur at a certain period of life, and generally ending fatally. The indications, therefore, we form in the treatment of it, are to counteract the present symptoms, and then to produce such alterations in the state of habit, as may prevent a recurrence of its attack.

The first of these is generally attempted by powerful restringents, as cold in the form of ice cream, ice itself, small doses of the cerussa acetata, the mineral acids, and a variety of other articles of a similar class, while irritation is allayed by the use of opiates, and a proper attention to the state of the bowels. The unequal balance of the fluid is, at the same time, to be restored, by preserving the state of the surface in a proper and regular temperature; and under this management the
violence

violence of the attack is generally restrained, if the regimen is at the same time attended to.

When the attack is past, the second indication then comes to be attempted; and here the use of mineral waters has been had recourse to, in which a predominance of the carbonic acid prevails. Though the Bristol water has been chiefly in repute for this malady, I conceive it by no means the best for the present form of the disease. This, as well as the next affection, are evidently derived from a scrofulous source, and in this constitution a radical fault seems to exist in the organs subservient to the preparation of the nourishment, as it passes into the system. There is evidently a want of that something which elaborates the fluids into their complete or perfect state, and of course this affects their apposition to the solids, and diminishes the strength and firmness of the latter. What this deficiency consists in is not as yet determined; but a few facts may lead us so far as to enable us to substitute some means for rectifying this fault of constitution, and giving additional firmness and vigour, so as to resist the attacks of this malady. The first fact that occurs on examining the structure of the lungs in scrofulous cases, is the tendency the fluids circulating through the small glands possess to stagnate, and the peculiar appearance which this stagnated matter possesses, different from any other matter produced either naturally, or by the process of suppuration. This difference certainly establishes a difference in its constituent principles, and to this circumstance the origin of
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the disease is to be ascribed. The parts of the fluids do not seem to incorporate as they ought, and therefore there is wanting that connecting medium necessary to complete animalization; and wanting this, they have not that power or stimulus on the solids, which the fluids exercise in other cases. With this fact we are next to join the good effects that in scrofulous cases arise from the use of saline remedies, particularly the carbonic acid and sea salt; and combining these circumstances, it would appear there prevails a deficiency of these principles in the system, and that restoring them in a certain degree will, if not cure, at least much palliate the appearance of morbid symptoms in a scrofulous habit. Whenever, therefore, this constitutional fault appears early in life, the prevention of the disease should be aimed at, and this consists in the introduction of a proper quantity of the saline principle, already hinted at, both by diet and medicine. The diet of animal food should be much used in a salted state, or should this not be relished, the vegetable æthiops of Dr. Russel may be exhibited in regular doses, which consists of the carbonated part of the sea weed, mixed with a proportion of sea salt and soda. The carbonic acid can be only used effectually in the form of mineral water, and here those waters that possess it in the highest degree will be found most useful, and their choice must be determined by the circumstance of any local affection having taken place. If a local congestion in the lungs has actually already commenced, the simple acidulous waters are then the most useful, and on this account the Bristol
has

has been particularly preferred. But where no symptoms of local congestion shew themselves, then a carbonated chalybeate will be more useful. The use of sea bathing must be also determined by the same rule. As a preventive remedy, it stands in high estimation, and deservedly from its tonic powers; but when the disease has commenced, from the necessity of preserving a determination of the fluids to the surface or skin, in order to relieve the internal accumulation of the lungs, the use of it would be attended with most injurious consequences. Every patient, therefore, subjected to spitting of blood, so soon as the attack is over, and the hemorrhage stopped by the use of restringents, should employ an acidulous mineral, and resort to that situation where the climate is mildest, and a proper use of exercise and other auxiliaries can be enjoyed. With this mineral he is to introduce a certain quantity of the other saline principle, recommended either in the form of the vegetable æthiops, or by means of the various articles he employs in diet. His exercise should be chiefly of the passive kind, and when such a change is produced in his habit, that he is no longer under apprehensions of a new return, he may then vary his plan, and attend to the common means of strengthening his general constitution, at the same time avoiding every cause which may expose him to any renewed attack.

CONSUMPTION OF THE LUNGS.

With these observations we introduce the next, and an equally formidable affection of the same organ, viz.
consumption

consumption of the lungs, in which the former malady too often terminates. This insidious disease is almost peculiar to Britain. About one-eighth of the mortality of the great towns arises from it, and it cuts off in the flower of youth the chief hope of their country, those who are distinguished by an excess of sensibility, and the powers of genius.

This disease consists in an expectoration of purulent matter from the lungs, attended with cough, (which prevails most in the morning, or when the stomach is empty) with emaciation, debility, and hectic fever.

This fever differs from all others in the slowness of its progress, and accompanies all affections of parts where a loss of substance, or purulent state prevails. An exacerbation of its symptoms may be observed daily at noon and midnight, when a sense of chilliness is felt, while the body is at the same time preternaturally warm, and the night exacerbation is soon attended with profuse sweats of a colliquative nature.

These sweats, however, seldom occasion much thirst, the tongue also appears clean and natural, though in the progress of the disease, a degree of inflammation is conspicuous both on it and the internal fauces, being sometimes covered with aphthæ, or spots. The eye also possesses a pearly white appearance, no red vessels being seen in the adnata, and the face is usually pale, though a circumscribed florid spot is observable on the cheek, which appears brightest after eating.

During its course, the belly is irregular, but towards the end a colliquative diarrhœa commences, and
alternates

alternates with the sweating described, while a general emaciation takes place, the hairs falling off, and the nails of the fingers assuming an adunque form. The mind is here, for the most part, full of hope, and confident of health, and some days before death, a delirium, which has seldom hitherto appeared, comes on, and continues to the end.

These symptoms denote an acrimony affecting the state of the fluids, and, when joined with the cough and expectoration, evidently shew that pulmonary consumption has taken place.

The attacks of this disease are chiefly fatal betwixt the 20th and 30th years, and affect those who possess a soft muscular flesh, a tall stature, and that constitution as described peculiar to hemoptysis, or spitting of blood.

Its causes are an obstruction and inflammation of the lungs, depending most frequently on the existence of small tubercles in their substance, which, coming to supuration, burst and discharge a purulent matter. These tubercles are often the consequences of a scrofulous habit; of a venereal virus existing in the constitution; or are produced from the acrimony of particular substances in certain mechanical professions.

Consumption likewise arises as a consequence of other diseases, viz. of catarrh, asthma, and pneumonic inflammation, &c. without the previous existence of tubercles.

When arising from tubercles, the first symptoms of an approaching consumption are a short noisy cough, which soon becomes habitual, and little attended to, nothing being spit up but a frothy mucus, which seems

to proceed from the fauces. The breathing is somewhat impeded, and easily hurried by the slightest motion, a sense of fullness and stricture of the chest also takes place, and an occasional attack of obtuse dull pain is felt under the shoulder blade, in the side or under the breast, the body growing gradually leaner, and an indolence and languor prevailing. This state generally continues for a considerable time, during which the person is more easily affected than usual with slight colds, and at last after one of these the cough increases, especially towards night, attended with expectoration, and hectic symptoms; the pain of thorax, if formerly felt, becomes then more violent, with an uneasiness in lying on one side, and the expectoration is sometimes mixed with blood.

Our opinion is generally unfavourable in this disease; and especially when preceded by tubercles. It is for the most part fatal in the end of spring, or beginning of summer, and in all cases, the symptoms are greatly aggravated during autumn.

Madness and pregnancy frequently remove, or at least retard its termination; and the danger is to be chiefly judged of by the violence of the hectic symptoms, particularly the falling off of the hair, the strong smell of the expectoration, and the diarrhœa, which mark approaching dissolution.

In the dissections of consumption the seat of tubercles, which is the most frequent morbid appearance, is found to exist in the cellular substance of the lungs, in the form of firm round bodies, which are formed,
similar

similar to the swelling of the lymphatic glands, on the external surface; they are of different sizes, from the smallest granule, to half an inch in diameter; and often in clusters: they adhere pretty closely to the substance of the lungs, and have no particular covering, or capsule. In proportion to the smallness of their size, is their firmness; and when cut into, in this state, they are of a white colour, with a consistence nearly approaching to cartilage; in some part of them there is always a small pit, or hollow, where, as they increase, the formation of matter begins, and, at length, they pass into vomicae. But the formation of matter is not always determined by their size. In some it begins very early. When in small quantity, the consistence of the matter is thick and curdy; when in greater quantity, it is thinner, and more resembling the matter of a common sore.

As matter forms, the substance of the tubercle melts down, leaving in the end only a thin covering: and this melting down, appears to be without any very increased symptoms of inflammation taking place.

The matter discharged from the vomicae is purulent in its appearance; but in its properties, it resembles mucus more than pus.

The principal situation of tubercles and vomicae, is the upper, and back part of the lungs. Sometimes they occupy the outer part; and wherever they are, adhesions to the pleura are there formed.

The real portion of the lungs affected by this state of disease, is different in different cases. At times the whole lungs may be said to be diseased, so that not a
fourth

fourth part of them remains fit for the transmission of air. This is for the most part the case ; - but, in some rare instances, life has been protracted till not one-twentieth part of them appeared, on dissection, fit for carrying on this important function. Where the disease, as most frequently happens, is only partial, affecting, as mentioned, but about a fourth part of the lungs, the upper and posterior parts are then always found diseased ; the under, and anterior, remain free, though not entirely in the natural state. The left lobe, also, it has been observed, is much oftener affected than the right one ; and this is confirmed by all the morbid collections of anatomists.

In the treatment of this disease thus described, two indications present, the first to palliate the present symptoms, and the second to prevent their recurrence. The symptoms of the disease that require palliation are the cough, fever, and increased discharges. The first of these is chiefly trusted to opiates, or the use of factitious airs, acting much on the same principle. Thus Dr. Beddoes has found a mixture of atmospheric and inflammable air inspired into the lungs a powerful palliative in the last stage of the disease, acting even as an anodyne in inducing sleep. The second symptom, or the hectic fever, is the one that requires the principal attention, as marking the state and progress of the malady. It is against this symptom that the Bristol mineral has been found so useful. Thus it is particularly efficacious in moderating the thirst, the dry burning heat of the hands and feet, and even the partial

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night

night sweats ; and at an early period of the disease it cannot fail to contribute materially to the re-establishment of the health. To this also may be added the favourable situation and mild temperate climate which Bristol enjoys, so essentially necessary in this complaint. When a patient, therefore, under this disease is confined to this country, Bristol should form his favourite residence. He will thus be enabled in some degree to cheat the winter, though, perhaps, it may be more useful during the summer to try the use of a stronger acidulous mineral, and to assist it by those other means of renovation, viz. exercise and regimen, which, during that period of the season, he is enabled to enjoy. Seltzer water has been even more extolled in this disease than the Bristol, and it is certainly a more powerful mineral. This points out the good effects that might be expected from a strong artificial impregnation on the same principles, and will support the opinion we have already delivered on the nature of this malady as a scrofulous affection.

The third symptom, or the increased discharges, are much connected with the state of fever, and whatever alleviates the one, will tend to lessen the other. The diarrhœa, the most troublesome discharge, is generally treated by opiates, and absorbents, which, so far as they produce a temporary suspension of it, are properly applied.

The dietetic part of the treatment requires much attention during the progress of consumption. As a deficiency of the strength of solid and want of stimulus in
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the constituent parts of the fluids particularly mark it, the action of the latter must not be increased without an additional apposition of matter to the other: the diet should therefore consist chiefly of vegetable mucilage, or that matter which conveys most of the peculiar part of the solid we term fibrine, and on which its strength depends. It is in this way the Iceland liverwort and the other mucilaginous substances have been found here so highly useful, and they may be assisted by a mild vegetable tonic, as the dulcamara, which combines something of an anodyne property.

Such is the plan we have shortly pointed out, which will be found most successful in the present disease, and where it is taken early care of this method, will not fail to cure; it may be shortly summed up as follows: A nourishing vegetable diet is to be prescribed, with the use of Bristol or Seltzer water, taken in sufficient quantity to check the progress of symptoms. The interposition of some mild vegetable tonic and anodyne is to take place along with this, and a proper portion of the saline principle in diet. An attention is to be paid to the external situation in point of mildness of climate, and the employing such a due proportion of exercise as the strength will easily bear. In this way all the symptoms will yield, the constitution be gradually renovated, and its recurrence, the 2d indication pointed out, entirely prevented. When renovated to a certain extent, the acidulous mineral may then give place to a mild chalybeate, and of these the Hartfel at Moffat, where the iron is held in solution by the sulphuric acid, has been preferred, and highly extol-

led in a variety of cases. This alteration of the dissolving acid may likewise be useful where the carbonic has preceded for a length of time. In the use of this water caution, however, is required from its powerful effects on the stomach and bowels, and it should be begun in a small dose, till it is seen how far the constitution can bear it. It may be even warmed before taking it, if the stomach possesses a very irritable state.

CHRONIC LIVER DISEASE.

From the stomach and lungs we naturally descend to the largest organ of the body, or the liver. Through this organ an immense quantity of blood passes, the circulation of which is conducted in a slow manner, and when this natural slowness of circulation is increased by debilitating causes, particularly the residence in a warm climate, it gives rise to obstructions of a serious nature. This is what is termed the liver disease, or chronic inflammation of this organ.

The chronic inflammation of the liver is, in this country, more frequent than the acute one.

Its symptoms are very obscure, and of long duration. They commonly begin with affections of stomach; as flatulence, fulness, distension, and frequent eructations; the appetite in consequence fails, pain comes to be felt in the region of the liver, extending to the right shoulder, the characteristic of the disease; an obscure fever, with a slight evening exacerbation, gradually creeps on, occasioning languor, want of sleep, and much depression. The countenance becomes livid and sunk, the

the eye corresponds to this state, and becomes of a dull white or yellowish hue. Under these symptoms a sensible emaciation takes place; the region of the liver, on examination, appears at last somewhat full, and a swelling can be traced. By this distension the breathing becomes affected, and particularly aggravated when laid on the left side, attended with a hoarse dry cough. In the end, dropsical symptoms, as well as jaundice, supervene; and by this complication of disorders is the patient cut off. Sometimes an abscess, opening externally, if not curing, at least prolongs the life of the sufferer.

This species of the disease lasts for months, sometimes for years; and is perhaps on the whole, less fatal than any other case of scirrhus, especially internal scirrhus; for there are a great number of instances of recovery from this affection, even under very deplorable circumstances. In this climate, however, it is in general the mark of a worn-out constitution, or the effect of intemperance in the use of ardent spirits, which is its most frequent cause.

From this account of the disease, the removal of the obstruction is the great point, without inducing suppuration, and the remedy pointed out with this view, and generally employed, is mercury, or the nitrous acid, both acting on the same principle. In many cases, however, the constitution is unable to bear the quantity of mercury, and with others the nitrous acid does not agree, neither is it a remedy so powerful. The substitution, therefore, of mineral waters, under certain regulations,

is found highly useful ; but, as they should by no means be trusted to alone, we shall shortly point out what we conceive the most successful plan in such cases. When the presence of the disease is once ascertained, by consideration of the pending morbid symptoms of stomach and bowels, and by examination of the organ feeling hard and enlarged, the use of mercury, by friction, should be immediately begun, and when the system is once impregnated and the disease giving way, a chalybeate mineral should be had recourse to. The preference of a chalybeate proceeds on this principle, that the impregnation of iron renders the mercury more active ; but, lest this activity should proceed too far, a saline chalybeate is the most proper, as enabling the system, by means of its determination to the bowels, to free itself of any excess of increased action. Hence Cheltenham has formed the favourite resort for patients under liver complaints, and we have no doubt that its reputation is justly acquired.

Cheltenham, as a chalybeate, is one of the strongest we possess, and besides its saline principle, it possesses a small impregnation of sulphur. This water is particularly delicate and will not keep, and loses both its chalybeate and sulphureous impregnation by standing, so as to become entirely a saline mineral. In its purgative effects it is attended with no griping, and therefore forms, independent of its other qualities, a pleasant cathartic. Its use is particularly indicated in liver complaints, where the constitution is so exhausted, and obstruction of the organ of so long standing, that general dropsical

dropsical symptoms of the habit begin to ensue. Here its determination to the bowels produces the best effects in taking off this tendency, and preventing the accumulation of serous fluids in any of the cavities. It is often a useful plan in this and some other affections, that the two waters of Bath and Cheltenham should succeed, or alternate with, each other.

Thus, in the commencement of the course, where the body is wanted to be impregnated with a certain quantity of mercury, the use of the Bath water, both externally and internally, will powerfully promote its action on the system. When this point is once gained, and the obstruction from the disease seems to give way, then the Cheltenham water is properly introduced to prevent, by its determination to the bowels, the medicine acting in excess, while by its chalybeate nature it keeps up in some degree the strength of the system under its farther operation. When the course is finished, a light carbonated chalybeate may be for a short time employed till the patient regains completely his former strength, as the Tunbridge or Spa.

After this disease much attention is required on the part of the patient, to avoid irregularities in his conduct, as the operation of the same causes which induced it will soon occasion a relapse.

JAUNDICE.

Another affection that falls to be noticed here, being at times connected with the disease of the liver itself, is jaundice.

The jaundice consists in a suffusion of bile, tinging the skin with a yellow, brown, or black colour, and often shewing some degree of fever in its progress.

Its symptoms are chiefly denoted by the appearance of the skin, particularly the eye; sometimes also, though it is rare, yellow vision prevails. The disease is generally attended with oppression about the chest, (or rather its right side,) sometimes with pain, with bitter taste of mouth, sickness of stomach; at times vomiting and costiveness, the pulse being quickened, a general languor and indolence prevailing, and the urine depositing also a sediment, and like the other excretions, except the fæces which are entirely white, and always of a certain consistence, assuming a yellow or saffron colour.

This disease is common to every age; but it attacks adults oftener than the young, and women oftener than men, the melancholic constitution also more than any other. It varies in its duration, from a few days in some, to a year or longer with others.

The symptoms of this disease shew a morbid quantity of bile present in the mass of fluids, and this depends either on a redundancy of it, or else on an obstruction of its passage into the intestines, producing the same consequence.

The first of these is the effect of a warm climate, and sedentary life, which, by favouring an accumulation in the region of the liver, naturally produces such morbid redundancy; or it may arise in any situation from emetics, or any violent action of the stomach and intestines, emulging the biliary ducts.

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The causes of the second, again, or obstruction, which is more frequent in this climate, may be reduced to three general heads.

1st, The pressure of tumours situated in the neighbouring parts, or connected with the liver.

2d, The presence of biliary calculi, or stones, in the gall bladder, or its ducts; and,

3d, Spasmodic affections of the biliary ducts.

The first is confirmed by its occurring in consequence of an enlargement of lymphatic glands, tumours of the mesentery, omentum, distension of the intestines, or scirrhus of the liver; and this last is known by the long continuance of the disease, and the feeling of the liver itself.

2d, From calculi, or stones, somewhat resembling those of the bladder, being passed by stool, and the disease, from that period, departing; or where they have not been seen, by the disease attacking in fits, disappearing for a time, and then returning again so as to denote such a cause. Such calculi are of different sizes, from a pea to that of a walnut, and are like the gall, of a yellow, brownish, or green colour. Their presence is particularly noted by aggravation of pain after eating. In some rare cases, they have been passed to the number of 70 or 100. In order to know if they are past, we should particularly attend to the state of the face during the continuance of the disease.

3d, From passions of mind inducing it, without any appearances of calculi on dissection.

From a view of its causes, our opinion of its termination

nation is to be drawn ; for, in the first case, where it proceeds from a scirrhus state of particular glands, there is little hopes of a cure ; and as it occurs from this cause only in old age, its issue, in general, is less to be dreaded in young subjects. It is difficult, however, to know when it depends on the existence of calculi, or on spasm ; and in the latter we may, for the most part, promise success ; but when complicated with other diseases, as fever, inflammation of the liver, &c. it is more hazardous.

The dissections of jaundice shew, for the most part, as already observed, a diseased state of the liver, gall-bladder, or adjacent parts connected with the secretion of the bile ; yet there are other cases where dissections do not discover the smallest morbid symptom, to which the disease can be traced. The yellow tinge, on opening jaundiced patients, appears to pervade every part, even the most intimate in the body. The whole substance of the brain is covered by it ; the most minute parts of the cellular membrane, even the cartilages and bones ; and this tinge, if the body is preserved after death, is found to remain for years.

Mineral waters are only employed in the cure of the jaundice, where the disease has been long continued, and the obstruction arises from a scirrhus or calculous cause. In the first case, a purging chalybeate is the most useful, and here the bath may, at the same time, be conjoined. From the slow state of the bowels in this disease the Cheltenham water, if employed, may be too weak to excite their action, and some of the salts
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from the evaporated fluid will be necessarily united with it. With the same attention to the state of the bowels, the Bath waters have been found of service, and particularly so if the disease has been brought from a warm climate, and has produced a general derangement of the hepatic system. Where the disease arises from simple obstruction of the ducts, the external and internal use of it never fails to cure.

But, where this affection again is connected with a calculous cause, the simple acidulous minerals, by washing out, as it were, are of most benefit. Of these the Malvern is the most noted. Seltzer has been recommended in the same view. Perhaps in all these cases it is proper that medicine should be conjoined, particularly soap and mercury, the great remedies in obstinate jaundice. Their action will be increased by the aid of the mineral, and thus every energy of the system roused to get the better of the cause of obstruction.

From the hepatic system, or the organs subservient to the secretion and discharge of the bile, we naturally proceed to the kidneys, or those concerned in the secretion of the urine. The affections of the kidneys are numerous, and no class of disease receives so great relief from the use of mineral waters as the diseases of this part.

DIABETES.

One of the first affections to be mentioned is the peculiar disease known by the name of diabetes, or an immoderate discharge of urine, and it may be defined, a continued, or chronic discharge of an uncommon

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quantity of urine, far exceeding the proportion that should arise from the quantity of aliment or fluid introduced.

The first symptom of this disease is the increased discharge, without the appearance of any morbid affection of the rest of the system. In a short time, however, the primæ viæ discover marks of disease, and great thirst and voracious appetite prevail. With these there is generally present a kind of obscure fever; and, as the disease proceeds, the emaciation and debility gradually increase, and all the appearances of hectic are formed.

The urine in this disease, at first clear, insipid, and colourless, soon acquires a sweetish, or saccharine taste, its leading characteristic; and, when subjected to experiment, there is found present in it a considerable quantity of saccharine matter.

The causes of this disease are obscure. It has been, indeed, found to follow intemperance in drinking, and such others as wear out the constitution, and nothing farther is known; but a periodical species of diabetes, it may be remarked, attends hysterics and hypochondriasm.

Our opinion in this disease may be almost always unfavourable, unless we can evidently trace it to some accidental cause, which is seldom the case, as the suppression of certain of the excretions, which are to be restored; and it proves fatal sometimes in the course of two or three months, in others not till four or five years.

Dissections of diabetes have shewn the kidneys in a loose flabby state, of a pale ash colour, sometimes full
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of calculi, or stones; the ureters also in part distended. Except the liver, at times, none of the other viscera have been found diseased.

Whatever is the nature or cause of this disease, it is certainly lessened by a diet of animal food, and whatever tends to strengthen the assimilating powers of the system. Mineral waters are found to give considerable palliation, and the Bristol Hot wells have acquired much celebrity for, at least, affording a certain relief, and rendering the urinary organs more fitted to receive benefit from the medicines prescribed for it. Hence, Bristol water forms a useful auxiliary to any course of medicine which the patient may be put upon; and from the same reasoning, every other acidulous mineral of the same temperature will perhaps be equally beneficial. If we carry the principle still farther, an artificial impregnation, still more powerful, might be tried, which would determine if the relief was owing to the chemical action of the mineral on the state of the fluids, in preventing the formation of that saccharine matter peculiar to the disease.

After this peculiar constitutional disease, which displays its action on the system through the secretion of the kidneys, we come next to inflammation of those organs themselves.

INFLAMMATION AND ULCERATION OF KIDNEYS.

This state is displayed by pain of the affected side, in the course of the ureter, being little influenced by motion, or pressure, which distinguishes it from rheumatism;

tism ; the testicle frequently drawn up, and a numbness prevailing in the limb of that side, frequency of urine, and difficulty experienced in passing it ; to these symptoms are added pretty constantly vomiting ; sometimes colic ; while the patient lies easiest on the affected side.

The causes of this disease are, external contusion, straining of the back, internal irritations as from calculi, acrids received into the stomach, &c. a particular predisposition to this disease prevails in some constitutions, particularly the gouty.

In our opinion, we are determined by the quantity of the urine past, and its appearance, which is best when high coloured ; and the evacuation of pus along with it is a favourable symptom. A crisis also happens at times, by sweat or piles.

Dissections of this disease show all the effects of inflammation on the kidney ; but there is no considerable gland in the body so liable to form abscesses as it. The cavities of such abscesses are lined with a pulpy granulated matter ; and these abscesses destroy the whole structure of the kidney, converting it into capsules, surrounding a number of imperfect cavities, lined with this pulpy substance. Instead of abscesses, the substance of this organ becomes changed, at times, into a soft loose mass like a sponge. It is also found scirrhus, &c.

It is the chronic state then of this disease where the parts pass into ulceration, that forms the object of our attention here, and no medicines give so much relief in this unhappy situation as a large and regular use of mineral waters. Of these Malvern has been much celebrated,

brated, and its use indicated wherever there prevails much pain, with a discharge of bloody, purulent, or foetid urine. From the simplicity of its impregnation it may be largely employed without any bad consequence, and by a steady perseverance in it many deplorable situations of the disease have been recovered. Bristol has been recommended for the same purpose, and from its sensible qualities it may be considered as still more powerful. Whatever mineral is adopted it will be proper to adhere still to medicines of the soothing and anodyne class, which will render the mineral more powerful in its operation, by retarding its passage through the system, and thus determining its longer stay on the diseased parts.

GRAVEL, OR CALCULUS.

From inflammation and its consequences we proceed to another, and a still more frequent affection of the kidneys, viz. the formation of calculus or stone. This disease is marked by the usual symptoms which point out the former disease, and added to them the appearance of blood, or calculous matter, in the discharge of urine. The origin of this disease chemistry has shewn to depend on the generation of a peculiar acid, as explained with much ingenuity by my friend Mr. Forbes, in his dissertation on this disease, and the proofs of it are strongly confirmed by the benefit derived against its attacks from the use of alkalies and absorbents. As the continuance, however, of such medicines for a length of time are often highly injurious to the constitution, mineral waters afford a more pleasant and
equally

equally certain means of relief. Of mineral waters Buxton has been much resorted to by patients suffering under these complaints; and the painful state which attends this disease is much relieved by its internal use, and still more so when bathing is joined with it. On the continent Seltzer water is much employed in the same affection, and its rapid determination to the kidneys, and its alkaline nature, strongly point out the propriety of its use. Whether it acts as a solvent, or not, is unnecessary to enquire; it clearly lessens the painful irritation which the disease produces, and consequently amends the discharge. Hence, when imported into this country, it is consumed for the relief chiefly of complaints of this nature. It requires little precaution in its use, and the quantity, though rated at from only half a pint to a pint for a dose, is only to be determined by its effects and by the necessity the patient feels for relief. During a course of it, however, attention must always be paid to the state of the bowels; and thus a greater extent of it can be indulged in than without this precaution. Besides the simple acidulous waters, the acidulous chalybeates have been also recommended against the same complaints. By their action, like the former, they remove irritation, and the addition of the chalybeate tends to give some vigour to the constitution, often broken down under severe fits of this malady. Both Tunbridge, Moffat, and Spa may be used here with singular advantage; though in the first attacks of the disease, and till the health has suffered, the simple acidulous waters will be preferable.

DIARRHŒA.

From the kidneys we proceed, in regular progress, to affections of the bowels ; and those that fall under our present consideration are diarrhœa and dysentery, both in their chronic state.

Diarrhœa consists in a frequent discharge, by stool, of a matter various in its appearance and consistence, but mostly feculent, attended with little or no pain, and no primary fever.

Each discharge is preceded by some murmuring noise, and flatulence in the bowels, and a sort of weight and uneasiness in the lower belly, which depart immediately on the discharge taking place, but are renewed before a succeeding one. As the disease proceeds, the stomach becomes affected, and sickness, nausea, and vomiting prevail. The countenance turns pale, the skin dry and rigid, and, in the progress of the disease, an universal emaciation, dropsy of the lower extremities, and relaxation of every part ensue.

The distinction between this disease and dysentery is marked by the following symptoms :

1st, The absence of fever as a primary symptom.

2d, The discharge of actual fæces, which in dysentery is rare, and only in a particular hardened form, or scybala.

3d, The want of that fætor in the discharge which attends dysentery, and marks it as a contagious malady ; but, in the progress of the disease, dysentery and diarrhœa become very much allied.

This disease consists in a morbid increase of the peristaltic

taltic motion of the intestines, and this morbid increase is the effect of a variety of causes, either applied to the body in general, or acting solely on these parts.

Of the former may be enumerated passions of mind, cold applied to the surface; diseases, as gout, dentition, fever, &c.

Of the latter, 1. Matters taken into the stomach, and acting either from their quantity, as in case of surfeit; or from their nature, or the state of the stomach itself, producing fermentation, as acid fruits, oily and putrid substances, drastic and purgative medicines, &c. 2. Matters generated in the body, and thrown out into the intestines, as acrid bile, pancreatic juice, purulent matter, water in dropsy, worms, &c.

Our opinion in this disease is determined by the particular cause from which it arises, whether symptomatic of another disease, and whether of a critical nature; by the degree of debility present in the system; and, lastly, by the period of its continuance, from the hazard of its producing a local affection of the intestines.

The most frequent morbid change met with, in dissections of diarrhoea, where it appears in some measure a primary disease, is ulceration of some portion of the intestines, and enlargement of glands; the inner membrane is, in this case, often stripped off, for a considerable extent, and its muscular coat laid bare. The follicular glands are also the most frequent seat of such ulcerations; they are sometimes, too, of a cancerous nature, and shew the same appearance as scirrhus and cancer, elsewhere.

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When the disease is more symptomatic, the intestines shew simply marks of erisipelatous inflammation; but the aphthous appearance, which attends it, is never an object of dissection, but disappears with life. The morbid changes of the organs belong to the primary diseases of which the diarrhœa is merely a symptom. As a proof of the alliance betwixt dysentery and diarrhœa, dissections often shew, in diarrhœa, some portion of the intestines in a dysenteric state.

From this view of diarrhœa, it is a disease very varied in its causes, and hence requiring much diversity of treatment, but, when from its long continuance part of the gut has passed into ulceration, the use of mineral waters is particularly indicated, and is the chief remedy to be depended on for producing any chance of cure. The mineral waters recommended with this view are numerous; of these, Bristol has been strongly held up, and, from its temperature and particular impregnation, it cannot fail to do much service. This state of disease is often the effect of long residence in a warm climate, and here it acts with particular success, by removing that bilious tendency with which the continuance of it is connected. Bath waters are equally useful here as those of Bristol, and their increased temperature makes them still more favourable in the present complaint. They require much perseverance, and a constant and regular use of them to ensure success. Spa and Pyrmont waters are no less recommended as possessing strong powers in restoring the healthy action of these parts, and removing their debility; Hartfell, though
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not equal to any of these, may be mentioned as useful, on the same account.

DYSENTERY.

The next disease, or dysentery in its chronic state, at which period only its treatment enters into our present plan, differs little from the former affection. We shall consider it, however, in its different stages, and then apply what regards the use of mineral waters in conclusion.

The attack of dysentery is displayed by a frequent mucous discharge from the anus, attended with a constant urgent desire, violent gripes, frequently an evacuation of blood, and almost always with fever.

It commences with a rigour and other febrile symptoms, which generally accompany its progress, and is preceded by costiveness, and an unusual flatulence of the bowels, with loss of appetite, frequently sickness and vomiting. In many, the feverish symptoms soon cease, but though the disease should depart in three or four days, it leaves the bowels in the most weak and irritable state.

The discharge is generally a little at a time, and varies much in its colour and consistence, being always, however, more or less mixed with blood and films of a membranous texture; more rarely worms appear in the stools. During this discharge, the natural fæces are seldom observable, and when so, it is in the form of hardened scybala, (or lumps) the evacuation of which produces a temporary ease.

This disease depends on a specific contagion of a putrid

trid kind, is highly infectious, and propagated by every species of filth. It occurs chiefly in summer and autumn after intense heats, by which a debility is occasioned, rendering such contagion more powerful, and it is particularly prevalent in camps, or where numbers are collected in warm climates, being favoured by cold, excesses, &c.

Our opinion in this disease is very uncertain ; for frequently it ends fatally in a few days, with all the appearances of gangrene having commenced ; but, when the fever is more moderate, it may be protracted for weeks, even months, when it passes into the chronic species, or diarrhœa, though its common termination is from the 7th to the 14th day, and if the constitution has been previously impaired by former diseases, the patient generally dies. Yet cases of long standing are frequently cured by a return of cold weather. An evacuation of bilious matter is a favourable symptom, and often removes the disease. When epidemic, it is always more dangerous, as denoting a worse kind. The best mark of a happy crisis is diffused sweats over the whole body, with a deposition of a sediment in the urine. It is more fatal to men than women.

From dissections of this disease, its peculiar seat seems to be chiefly the internal coat of the colon and rectum, affected with inflammation and its consequences. Hence the morbid appearances are, ulceration of these parts, gangrene, contraction, so as to be felt sometimes knotty, and lastly, a thickening of their coats, with enlargement of the small glands, which appear like small-

small-pox. The coverings of the abdomen partake also in the inflammation of the internal parts. The adipose substance and the muscles become soft, flaccid, and full of serum. Several of the organs are also enlarged.

From this view the chronic state of dysentery is one very difficult to treat, and generally unsuccessful in its issue. It has been attempted by the use of mineral waters, which have proved more fortunate than most other remedies, where the disease has occurred in a warm climate, and where the patient has come home for the benefit of their use. The mineral waters employed are first, those of Bristol Hot-well; and the pure acidulous quality of this water, joined to its temperature, is often attended with the happiest consequences, in producing a tendency to heal where the bowels are in an ulcerated state. This degree of ulceration is generally in a scrofulous habit, and from what has been delivered on the subject of pulmonary consumption, the principle of this will be apparent. If the Bristol water be so useful, it is clear that those of Buxton and Bath, from their more powerful impregnation, will be still more so. But the climate of Buxton is less propitious to the invalid of the tropical region, and is more suited to dysenteric patients of this country who are in a convalescent state, and where the disease is merely a species of diarrhœa somewhat protracted. But the Bath water is not liable to this objection, and being placed in a genial spot, will afford a proper retreat for the exhausted frame of the Indian invalid, where the powerful action of the mine will soon produce a tendency to heal in the ulcerated

parts, and correct that bilious propensity in the habit, which, by its irritation, may continue the disease. During any course of this kind, where the irritation on the bowels is great, it may be necessary to continue in part the use of the medicines suited to the first stage of the malady, but this must be regulated by the feelings of the patient and the judgment of the practitioner. The external application of the water, or bathing, so as to preserve the surface always in a pure perspirable state is at all times, it may be remarked, of the greatest consequence in bowel complaints, from the well known sympathy between the external and internal surface having such influence in the protraction of the disease, and an equal balance of the fluids must, therefore, at all times be preserved, more especially where a determination to the internal parts has clearly taken place. A medium temperature will be found sufficient for this purpose. Chalybeates are here of more uncertain operation, though the Spa water has been recommended as a powerful auxiliary to other medicines. But, where a chalybeate is used, it should be one of the simplest kind, that the increased action of the system may not be too great, for a gentle, and long continued stimulus is always most proper in every case where hectic fever prevails.

IRREGULAR COURSES, OR AMENORRHŒA.

From the bowels we are led to another situation of disease, and that peculiar to the female, being the affections of the uterine region, or such as attack the womb. Here mineral waters are of wonderful efficacy,
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and in four varieties of uterine disease they may be considered as proving almost a certain cure. These are greensickness, supprest courses, flooding, and the whites. Greensickness and supprest courses form two modifications of the disease termed amenorrhœa. This disease consists in a want of the menstrual discharge at the proper period, attended with various morbid symptoms and unconnected with pregnancy.

It is divided into two species, under the terms of its retention and suppression.

1. *Retention.*

Its retention, known by the name of chlorosis, or the greensickness, is marked by various symptoms of debility, as indolence, lassitude, and a number of dyspeptic, or stomach complaints. These are succeeded by a pale leucophlegmatic appearance, or sallow green colour, both in the face, which loses its vivid redness, as well as the rest of the body, and not unfrequently swelling of the lower extremities. The respiration becomes easily hurried, hysteric symptoms are frequent, especially palpitation and fainting, and pain is particularly felt in the back, loins, and haunches.

The cause of this disease depends entirely on weakness, or a want of power in the system to propel the blood to the uterine vessels; but the origin of this peculiar weakness, which appears at this period of life, without any antecedent mark of it, we are unacquainted with.

Our opinion in this disease is doubtful. It is often recovered entirely by change in the mode of life, and by marriage.

marriage. Where deep rooted, however, the patient often falls a sacrifice to morbid affections of the viscera; and if married, becomes barren, or very subject to abortion.

Disssections of chlorotic patients have discovered most frequently diseased ovaria, consisting in scirrhus or dropsy. Some of the other organs, particularly the liver and spleen, have been found, at times, also in the same state.

2. *Suppression.*

Suppress, or obstructed menstruation, after its regular establishment, is marked chiefly by dyspeptic and hysteric symptoms. To these are joined colic, and, for the most part, costiveness. The blood also, determined more copiously elsewhere, produces various hemorrhages, as from the nose, lungs, stomach, and other parts.

The cause of this disease is chiefly constriction of the uterine vessels, arising from a variety of accidental circumstances, as cold, fear, passions of mind, the use of sedatives, want of exercise, &c.

Our opinion in this species of the disease is determined by its cause; for when from cold, which is generally attended with some fever, it is merely temporary; from the state of the patient's health in other respects; from the length of time the suppression has continued, and whether attended with leucorrhœa, or whites, which is always unfavourable; and from our certain knowledge of the source from which it proceeds.

Dissections, where this disease has been of long continuance, shew the same morbid changes of the ovaria

and womb, as in the former species, and no opportunity is afforded of inspection in temporary cases.

In the treatment of greensickness two indications present : 1. To give general tone and vigour to the system ; and, 2. at the same time to induce a full relaxation of the part. No means are so useful for this purpose as a mineral water of a proper temperature, and Bath has been much recommended with this view. It requires to be used both internally and also by bathing, but it may be considered as more useful here from its temperature than its impregnation, and on that account some others are preferable in this disease.

Steel is at all times, here, a medicine of sovereign efficacy, notwithstanding the degree of fever and irritation that prevails. The chalybeate minerals are, therefore, clearly pointed out as superior to any other, from the great weakness which characterises the disease, and from the tendency to a cachectic state, or the appearance of dropsical symptoms which also attend it. Tunbridge water has been accordingly much celebrated in this complaint, and those patients who suffer ill health from this cause receive a certain relief from the use of the Tunbridge mineral. But, even with the advantage of this powerful chalybeate, the 2d indication is not to be lost sight of, but the warm bath occasionally used, to promote by its relaxing and antispasmodic effects on the part, the natural discharge which ought at this period to appear. The other chalybeates may be here mentioned as equally useful with those of Tunbridge, in proportion to the strength of their impregnation ;

nation; and the Scarborough will be perhaps not less successful. In cases where the debility from the disease arises to an extreme degree, Hartfell water may be substituted, where the iron is held in solution by the sulphuric acid, which will render it a more powerful tonic than where the solution is made by the carbonic. The dose of this water is also less, and will not so much oppress the stomach. It has been recommended by some physicians in cases of debility, particularly of gout, to add to the mineral water, when taken, some aromatic tincture. This will be perhaps more allowable in greensickness than in most other cases, and as it is only, like the water itself, a temporary habit, there is not so much danger of its intruding itself to be a regular custom upon the patient. In this disease the good effects of the mineral will be much assisted if joined with exercise, to which chlorotic patients are particularly averse, and they require to be much roused, and this indolent torpid state of their feelings counteracted. The best exercise for them is that on horseback, not carried to an extreme.

The second modification of this complaint, or suppressed courses, are more varied in their treatment than greensickness, though it is only that fixed, or permanent species, which is connected with a constitutional change, that falls properly under the treatment by mineral waters. The mineral waters had recourse to in this species of the disorder are numerous. Where the complaint is the effect of a spasmodic stricture of the uterine vessels, arising from the imprudent application of cold, here the Bath waters are a certain means of relief,

and their external use will be even more powerful than their internal exhibition. But where, on the contrary, general not local debility forms the source of the malady, then the chalybeates, as in the former case, are the most proper and approved remedies. In this complaint the pain and irritation in the uterine region are often very great, and they require for their alleviation, joined to the bath, the judicious interposition of opiates.

But there is one species of this complaint which requires a treatment different from what has been here enjoined. At the period of life when the courses are about to depart, it is well known they become for a certain time irregular, and give rise to a number of distressing symptoms which affect the general health of females in a high degree. Nature is then endeavouring to establish a new habit of body, and till that is established, a very guarded caution is required in whatever is done. It is justly considered by the sex, themselves as a critical time. Whatever the cause of the courses is, it is clear that the constitution has been accustomed for a great length of years to this discharge, and their cessation must, therefore, give rise to a fullness in the system, to get the better of which, nature herself is often unable. At this period of life, then, the procuring the appearance of the discharge is of little consequence, and to guard against redundancy, or an excess of fluids, is the leading indication. Instead, then, of the acidulous or chalybeate waters, the saline class seem evidently pointed out, joined with some general tonic, the best of which here is the temperate bath; and this plan

plan should be continued till the necessary changes in the constitution are fully established, and all morbid symptoms appear to be past. The Epsom or Kilburne water will be here usefully employed at such times and in such quantities as the existing circumstances require. The Sedlitz water on the continent is one recommended with the same view; and by any of these minerals moderately taken, and joined with a proper attention to a regimen rather abstemious, this critical period of life will be passed by females with ease and comfort, any morbid symptoms that arise counteracted, and a new state of constitution established to remain for the rest of life. It is a want of attention to this circumstance of their getting old by females themselves, or their wish not to be thought so, and the desire of many practitioners to humour them in this idea, by forcing the appearance of the courses improperly, that lays the foundation for much misery to the patient, and lasting ill health for the remainder of life.

From a state of suppressed discharge in the womb, or uterine region, we consider an opposite appearance of disease in the same situation, and this is known under the two appellations, of flooding, and the whites.

FLOODING.

Flooding is a disease to which females are occasionally subject during all the time that the courses flow. This disease is marked by a discharge of blood from the vagina, exceeding the monthly flow, either in fre-

quency, duration, or quantity, attended with acute and permanent morbid symptoms, producing a highly debilitated state of the system.

The consideration of it, we confine here to its affecting the unimpregnated female.

This disease has been divided into two stages; the active and passive.

The former is marked by the usual symptoms of inflammatory fever, viz. a frequent strong hard pulse, with acute pains of the back, loins, and belly. The latter is displayed by various symptoms of weakness, as feeble pulse, paleness of face, breathing hurried on the slightest motion, and a train of nervous complaints, joined often with a leucophlegmatic or dropsical habit.

The appearance of the fluid discharged is also various, and corresponds to these stages of the disease. At first it is generally very florid, sometimes blackish, or of a pitchy colour; but, in the end, it acquires a pale watery hue, and often gives place to a white mucous discharge, or else an acrid watery fluid, which excoriates the passage.

The most frequent period of this disease is towards the cessation of the courses, when an irregularity in the natural flow takes place; and such a state of debility is often induced by it, that the patient can hardly stand erect, on account of the weakness of back it brings on.

The causes of this disease may be referred to,

1st, General fullness of habit, or plethoric state.

2d, Accidental circumstances increasing the force of
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the general circulation, as violent exercise in dancing, strains, violent passions, &c.

3d, Irritations, particularly acting on the womb, as excessive venery, and, especially in the menstruating period, costiveness, &c.

4th, Laxity and debility of the organ, in consequence of child bearing, abortion, &c.

5th, Organic affections of it, as scirrhus, polypus, ulcerations, &c.

Our opinion in flooding must be greatly determined by the nature of the cause from which it proceeds. When arising solely from a general fullness of the system, there is little risk to be apprehended, except its occasioning a temporary debility; but where, on the other hand, its appearance is the consequence of an organic affection of the part, which is too often the case after the age of 45, it is deemed generally incurable. Even where simple laxity of vessels is the cause, at the above period, if profuse and long continued, from the weakness produced by it, there is always danger of a leucophlegmatic or dropsical state.

An almost constant effect of this malady, in younger subjects, is sterility during its continuance.

Where the disease has proved fatal, in consequence of real loss of blood in the unimpregnated female, the womb has been found, on dissection, changed by an organic affection consisting either of scirrhus, polypus, or ulceration. In the former, it is increased in bulk, and often to a very great size. Its substance is thick, hard, and, when cut into, shows a firm structure

intersected with membranous septa, the characteristic of the scirrhus state. The internal surface, in this case, is, for the most part, ulcerated, throwing out ragged processes, and from these ulcerated parts, the hemorrhage proceeds. Polypus again consists of a diseased mass, adhering by a neck, to some part of the cavity of the uterus. It is surrounded with varicose vessels, and from these, when a rupture takes place, profuse floodings arise. These uterine polypi vary very much in their size, consistence, and form; from which circumstances, a greater or less tendency to hemorrhage arises. Such organic affections seldom prevail till after the middle of life, and the neck of the womb is most subject to their attack.

This disease, then, is divided into two species, the active and passive; the latter of which only claims our attention here. It is attended with debility or weakness of the constitution at large, and frequently with an organic affection of the organ. In this view chalybeates are strongly pointed out, and those of the highly carbonated kind are found particularly useful. Tunbridge has been a common resort against such uterine affections, and great relief is experienced by a course of the waters here. Their external use is improper, and should never be thought of in profuse discharges of this nature. But even in their internal exhibition some caution is required that the disease be actually in the passive state. If there prevail much general fever, with pain of back and loins, and great local irritation, then the chalybeate will be apt to aggravate the disorder.

order. Spa water has been still more strongly praised than any other against this disease; but it requires the same limitation mentioned: for, in order to be successful, there must exist some debility, as the cause producing and keeping up the discharge. Carlsbad has been no less famed on the same account, and the same restrictions apply to it. In this country, Hartfell, from the difference of its dissolving acid, we should conceive well fitted for the cure of this malady, as the astringent nature of the sulphuric acid must possess greater tonic powers than those of the carbonic. In directing a course for this disease, much attention must be paid to the patient's regimen; every thing heating, or which may induce irritation, is to be avoided. Exercise should be of the passive kind, and not depending solely on the mineral, the assistance of medicine is to be taken to increase its powers, and renovate, as soon as possible, the strength of the constitution.

WHITES.

From flooding, or a discharge of blood from the womb in its pure state, we examine it next in a more vitiated watery or serous state, and this discharge constitutes what is termed by the sex the whites; a disease of great obstinacy, marking strong debility of the system, and inducing sterility for the most part as a consequence of its attack.

The whites then consist of two kinds; the constitutional,

tutional, and local ; and this variety depends on the different parts from which the discharge proceeds.

Constitutional.

The discharge here proceeds from the uterine vessels, and is frequently connected with flooding or menorrhagia, appearing in the intervals of that disease. It is not so alarming as flooding, nor so rapidly hurtful to the constitution. The quantity of the discharge is various at different times, being at first mild, and growing gradually more acrid by its continuance : and its effects are entirely to be judged of by the symptoms it produces.

The symptoms it produces are paleness, distension of stomach, as squeamishness, inflation, and sometimes vomiting, pain of the back and loins, inflammation of the passage, attended with uneasiness and heat of urine.

The cause of this disease is either general weakness, or else particular laxity of the uterine vessels, and the latter brought on by various circumstances, as parturition, frequent venery, the use of stoves, &c. Hence the frequency of this disease in Holland, where no woman is almost without it.

Our opinion here depends on the nature of the cause from which it proceeds. If long continued, it becomes habitual, and often remains for life, and its constant attendant, in that case, is sterility. If accompanied also by an organic affection of the uterus, which
often

often takes place in its progress, it is generally incurable.

Dissections here shew the internal surface of the uterus pale, flabby, and relaxed. Where organic affections take place, their appearances were examined under the head of menorrhagia, or flooding.

The treatment of this species of leucorrhœa, or whites, is much the same with that directed in flooding, to the cure of that disease we shall therefore refer; only topical remedies, or injections, have here most effect; and, in the choice of them, they ought to be such as are least liable to stain the linen of the patient, and occasion the detection of the disease by the other sex, as strong infusions of green tea, solutions of alum, &c.

It is on this account that the general remedies, tho' less powerful, are commonly preferred by the patient. Irritations also of contiguous parts, by the use of the balsams, turpentine, and cantharides, acting as diuretics, are often successful here.

Local.

The second species of whites is that which most nearly resembles the venereal gonorrhœa, or clap, and proceeds from the same source, or the glands of the vagina, though we have here, even less than in the former species, any means of distinction, and must entirely be guided by the report of the female.

The cure is made by the use of astringent injections, which must be here strong, from the less sensibility of the parts.

Thus in the treatment of the whites, there is little difference from that of flooding, only local remedies are at times more necessary here, from the irritations which the discharge produces on the parts ; and if general bathing does not take place, local cleanliness is absolutely essential to prevent the uneasy feelings of irritation, which are the attendant consequences of the malady. Chalybeates are clearly pointed out as the waters most useful, and if the stomach is too weak and irritable, their temperature should be increased by immersing a bottle filled with them, and well corked, in warm water. This will cause the water to sit easier on the stomach, and prevent that sense of chilliness which, when taken newly drawn, it is apt to produce. The period during which it may be necessary to continue a course for this disease is uncertain, but it is always obstinate, and requires the mineral to be both largely used, and steadily persevered in ; nor should the assistance of other auxiliary medicines of the tonic class be lost sight of, as in all diseases of extreme debility, a concurrence of different medicinal powers, to the same general purpose, will be found most successful. Nay, where in some cases a suspicion of a venereal cause may be entertained for the origin of this disease, though mercury be exhibited on that account, it will not counteract the propriety of the use of the mineral water ; on the contrary, the action of the mercury will be rendered still more powerful by its assistance, and the cause of the disease, if of a specific nature, be sooner brought to shew itself.

PILES.

Descending from the womb, we come next to the extremity of the alimentary canal, and here we find a disease painful in its nature, and frequent in its attack, which falls under our present review, viz. the Piles, or hemorrhoidal affection.

The piles consist of small tumours situated on the verge of the anus, or of a varicose ring surrounding it. When a discharge from such tumours takes place, they are termed bleeding ; when there is no discharge, they are termed blind piles.

It is generally a local affection, but, from frequent returns of the evacuation, it becomes constitutional, occurring at certain periods, and preceded by giddiness, head-ach, pain of back and loins, with a sense of heat, and fullness in the part. It flows only when going to stool, though in some cases it takes place without any discharge of fæces, and in such quantity as to prove fatal, or to induce a dropsical state.

Its causes are habitual costiveness, any sudden application of cold, particularly to the lower extremities, a plethoric habit, excesses, &c. It is a disease more frequent in advanced life ; and oftener occurs in women than men.

When stopping in advanced life, in a person accustomed to the discharge, it is highly dangerous, being succeeded by apoplexy, &c. ; and when habitual, it possesses a certain connection with the state of the stomach ;

stomach ; so as to arise from particular affections of this organ.

Where the disease is merely local, depending on causes acting on the part, a renewal of them should be avoided ; and, as costiveness is one of the most frequent, a loose belly is to be preserved by means of different laxatives, suited to the particular constitution ; the best of which are cream of tartar, flower of sulphur, and the castor oil. When arising, again, from a prolapsus of the anus itself, (which is also a frequent cause) the part should, after stool, be carefully replaced, chusing, for the purpose of favouring it, a horizontal posture ; and the best method of replacing it, is by forming a paper into a cone, and having anointed it, let it be introduced into the rectum, by which the prolapsed part will be put up. Its return is to be prevented by avoiding the occasional causes, as much as possible, which induce it.

Where the discharge again is habitual, as arising from a plethoric state, this plethora (or fullness) must be prevented by avoiding a sedentary life, using a spare diet, and guarding against intemperance in drink, which is particularly hurtful in all cases of hemorrhage ; but where the disease is slight, its occurrence is, at times, of service, by preventing the attack of more formidable affections, as visceral inflammations, asthma, apoplexy, palsy, &c. Exercise is proper ; but much riding and walking, as determining to the hemorrhoidal vessels, must be shunned.

Cold

Cold bathing is also a tonic suited to this disease, and in the intervals is highly useful, where there prevails a prolapsus, if applied to the part; during the continuation of the flow, a horizontal posture must be used, avoiding heat, and paying attention to a cool diet. If the discharge is profuse, astringents, both external and internal, must be employed. Where there is much pain, leeches will be useful, and give the most certain relief. Fomentations and poultices are also in this last case had recourse to, and the parts, during the continuance of the inflammation, should be carefully anointed with soft pomatum, or axunge, before going to stool.

After this general treatment, we are led to observe, that few diseases receive a more marked relief from the use of mineral waters than the piles. They are attended, as we have seen, with much irritation, pain, and swelling. They are increased by a costive habit, and they are often connected with a general plethoric state of the system. In this view, mineral waters are well calculated to counteract all these predominant symptoms, and the great matter is to make a proper selection of them for this purpose. The saline minerals have been preferred in all cases where there appears a hereditary tendency to this complaint, and where there prevails a violent determination to the lower bowels, so as to produce protrusion of the rectum. Hence Epsom water in this country, and Sedlitz on the continent, have been recommended in this state of the disease, and perhaps the proper use of sea water is

no less beneficial ; or the lesser London minerals, as the Dog and Duck, or Bagnigge Wells. Where pain again proves more the prevailing symptom, the sulphureous minerals have acquired a preference for giving relief ; and both the Harrowgate and Scarborough are drank here with equal advantage. The sulphureous impregnation is well adapted to costive habits, an attendant of this disease, as the sulphur acts without irritation, and continues its operation uniformly through the whole intestinal canal. The water, therefore, should always be used here so as to produce a purgative effect, and its nauseous quality when first begun, if offensive to the patient, may be corrected by some aromatic seed taken into the mouth, as carraways or sugar confts, or still better by chewing a bit of dry biscuit or coarse bread. The dose should be drank fresh from the spring, and of the proper temperature, before any separation of the sulphur can take place from it. Moffat water, though of the same nature, is weaker than the Harrowgate, and requires to be taken in greater quantity to produce its effects, while on the same account, from its weaker impregnation, it is more apt to be determined to the kidneys than to the bowels. The use of the foreign sulphureous waters is still more successful in this complaint, particularly those of Aix-la-Chapelle.

WORMS.

Connected with this part of the body one disease falls
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to be noticed, as being the seat of it, before leaving the subject, and that is the presence and attack of worms.

Worms have been found in every part of the body ; but their most common seat appears to be the intestines. They are more frequent even in animals than in the human race, especially in quadrupeds and fishes. They are of *three* kinds, viz. the *ascarides* or small worm, the *teres* or round worm, and the *tenia* or tape worm. Different situations of the intestines have been mentioned as occupied by each of them, particularly the rectum, as the seat of the *ascarides*, where they are observed always involved in mucus. But the different kinds of them are found occasionally in every part of the intestines. The tape worm, however, is not so common in this country.

The symptoms by which worms are distinguished are often doubtful. The principal ones enumerated are pain and acid eructation of stomach, variable appetite, foul tongue, foetid breath : the belly full, hard, and tense, with occasional gripings or pains in different parts of it, particularly about the navel ; irregular state of the belly, heat and itchiness of the rectum, urine white and limpid, often discharged with difficulty.

With these symptoms are joined a dull appearance of the eye, often dilation of the pupil, itchiness of the nostrils, short dry cough, slow fever, with evening exacerbations, and irregular pulse, grinding of the teeth in sleep, &c.

The cause of worms it is difficult to explain. That they are generated in the body is clear, because they
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have been found frequently in the brain; at times even in the heart itself; and also because they do not seem capable of living for any time out of the body. They appear most frequently in those of a relaxed habit, and whose bowels contain a preternatural quantity of mucus or slimy matter. Hence it is a disease most common to children. When it is fatal, it is chiefly from the larger kind, and that by their erosion of particular parts, thus inducing a tabid state.

For the cure of this disease two indications must be formed.

The first is to effect their discharge.

The second is to prevent their future generation.

The first indication is accomplished by certain remedies, which have been termed specifics in this disease, and these specifics all act in one of three ways, viz. either,

1st, By simple evacuation or purging; as the different foetid or strong bitters, viz. rue, tansy, wormwood, &c. also mercury, rhubarb, aloes, &c.

2d, Mechanically, as the tin and coweetch, &c.; or,

3d, Chemically, as lime-water, which dissolving the mucus in which the worms are involved, loosens their adhesion to the intestines.

The second indication is performed by tonics, particularly those of the astringent kind, as suited to obviate that relaxation of the *prima viæ*, the constant attendant in this disease.

To this treatment may be added, that the use of the sulphureous minerals is more successful against two species

species of them, the round worm and the ascarides, than any other medicine, and Harrowgate waters are both drank and employed in the form of injection with this view. In order to be successful, they must be taken so as to prove purgative, and the diffusive activity of the sulphurated gas or vapour proves no doubt a poison to them in its operation. This principle of action being established, all the other sulphureous minerals will be found equally effectual, according to the proportion of strength their impregnation possesses.

To finish our sketch of those organic affections which receive alleviation from a course of mineral waters, it remains to consider ulceration of the bladder, strangury, and gleet.

ULCERATION OF BLADDER.

Ulceration here is marked by a bloody purulent urine, or its deposition of a dark coffee-coloured sediment, and it is attended with much pain and irritation on making water, and a particular smarting soreness is felt at one spot, and a heat in the bladder, like the feeling of melted lead. The constitution becomes soon exhausted under the pain of this disease, and the hectic state rapidly proceeds. To check its progress, the indications pointed out are, 1. to allay pain and irritation; and, 2. to dispose the ulcerated parts to unite. The first is performed by a proper use of opiates, suited to the existing circumstances that demand it, and judiciously renewing the doses as often as necessary. The second has been attempted by tonics, particularly the uva ursi, and

and by some of the balsams; but it will be executed more successfully by the use of mineral waters than by any other kind of remedy.

Malvern water, as a pure acidulous spring, has been recommended in this view. It tends much to allay the pain, but is too weak in its powers to produce any strong disposition to heal. The same may be said of Bristol and Matlock, whose virtues are similar. Buxton and Bath, as both possessing a more powerful impregnation, will be more useful, and the use of the external bath will be frequently a necessary addition to this course in cases of extreme pain. In a complaint of this kind, the patient ought to limit as much as possible his quantity of drink, in order that he may have little occasion for a frequent discharge of urine, and thus bring the organ as seldom as possible into action. The water, therefore, should form his sole beverage, and almost no other drink be permitted him; of course there is a greater chance of the impregnation being useful, by its suffering little dilution in its passage with any other adventitious liquid. Hartfell water has met much praise in this complaint, and perhaps it is the best of any one of the chalybeate class that ought to be tried. The disease arising often from a scrofulous source, or at least appearing in such constitutions as are subject to this malady, will point out the propriety of the mineral waters to be selected.

STRANGURY.

From the bladder itself thus affected, we proceed next to the passage, the obstruction of which in a greater or less

less degree produces the disease termed strangury. This disease consists in a painful and difficult discharge of urine, arising either from actual obstruction, or spasm, and the treatment of this complaint must be therefore regulated by its particular cause. If the disease depend on obstruction, and some part of the passage is preternaturally enlarged, as happens in a diseased prostate; or, on the other hand, morbidly contracted, as in case of stricture, then the cure of the affection depends on the use of mechanical means, or the bougie gradually employed; but where it arises merely from spasm, the treatment then falls properly under our present view; and even where the former cause exists, as its effects are increased by the occurrence of spasm in consequence of irritation, much relief is experienced as a temporary measure from the warm bath topically applied. The best form of applying it here is by means of the air-pump vapour bath, and the happy results of it are strongly instanced in a case related in his work by Dr. Blegborough, and this application may be farther assisted by a proper and judicious occasional exhibition of opiates. But, at the same time, whatever local treatment is employed, the application of mineral waters as a constitutional remedy is not counteracted. The state of hectic, if strong, will be relieved by them; and provided the disease is connected, which it often is, with a scrofulous cause, the mineral water will act as a powerful remedy, and materially aid the local applications. The mineral waters chosen should be those recommended in the former disease.

GLEET.

The last affection of this part that remains to be remarked upon is gleet, or a discharge of various appearance, and different in different cases in its nature, but whether arising from venereal excesses independent of infection, or as a consequence of the latter, we view it here as a state of extreme debility, which is more certainly relieved by the use of mineral waters than by any other remedy. The mineral waters here pointed out are evidently those of the chalybeate kind. Hence Tunbridge and Spa rank high in the cure of this malady. Hartfell is also a place of resort on the same account, and the waters must be largely employed, and should even be joined by other remedies, to have a permanent influence in effecting a cure. While their internal exhibition proceeds, bathing must at the same time not be omitted, and the bath must be gradually brought here to the lowest temperature, as quickly as the patient's feelings will admit, that it may possess its fullest tonic power. This disease also requires more attention than any other to a proper regimen, and all irregularities or excesses of any kind are to be strictly prohibited during the progress of the course, particularly with respect to venery and exercise, for the latter should be of the passive kind. As the disease is generally obstinate, it requires a long use of the remedies, and to avoid the causes which have been the means of inducing it, is often the most difficult part of a patient's conduct.

III. We

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We have thus finished the two first classes of diseases which are interwoven with the subject of the present work; but the last class that remains includes several others of equal importance, the seat of which is confined to the surface or skin, and perhaps in the eye of a patient, especially the female part, deserves more attention than the others we have treated. That the skin is more abundantly supplied with vessels than any other part of the body is well known; that its feelings also are uncommonly acute is also sufficiently confirmed; and that it transmits a greater proportion of fluids than any other part for the purpose of being discharged from the body is equally clear. Hence obstruction here must produce general disorder of the system, as well as a deranged state of the part. But beside this, the fluids themselves are often under a vitiated state. This fault is never displayed in the large vessels, but so soon as the circulation comes to its minute branches at the surface, and the tainted matter becomes there united to the excrementitious fluid, such an irritation is produced as to cause the production of disease more or less general, according to the extent and nature of the prevailing acrimony. In the cure of all cutaneous diseases, the great point is to produce a freedom of circulation, as well as to correct acrimony; and these two points being kept in view, the external as well as internal use of mineral waters must be conjoined, where they are employed here as a remedy. We shall therefore consider cutaneous diseases in two divisions, the first confined to
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the part itself, or the skin, the latter connected with the state of habit, and more particularly determined here. The number of cutaneous diseases is great, but it is those of a chronic nature that belong to our present subject. They form a class, on which mineral waters act with peculiar advantage, and there is none but what may be relieved or cured by their use.

HERPETIC ERUPTIONS.

The first of these affections is herpetic eruptions, of which there is some variety. The most common form is displayed by

Shingles, or Herpes,

An eruption of broad itchy spots, here and there over the skin, of a whitish or red colour, which at last unite together, and discharge a thin serous fluid. After a certain time, they form scurfy scales, which peel off and leave the surface below red; the same appearances, however, are apt to be renewed in a successive series till the disease is either cured, or spontaneously departs. The health, at the same time, remains in other respects perfectly sound. But sometimes these cutaneous diseases are observed to be attended with depression of spirits.

This disease commonly attacks in spring, and departs in winter, as the cold weather sets in. Women are more subject to it than the other sex. It is entirely a disease of the skin, and is distinguished from itch by the size of the spots, and, at the same time, from being rarely contagious.

Its

Its causes, like those of most other cutaneous diseases, may be referred to low diet, moist damp situation, and want of cleanliness.

Where the skin then is hot and dry, and the disease attacks an irritable habit, producing intolerable itching and irritation, nothing relieves so soon, and renders the surface cool and perspirable, as the simple acidulous water of Malvern. If applied externally to the diseased surface, which is apt here to break in painful fissures, and to ooze out a watery acrid lymph, it will for a time increase the pain, but this first effect soon subsides. The internal use of the water must be continued so as to have an influence on the bowels, though not to any great extent, but by determining this way it will tend to relieve the state of the external surface. When the disease has continued long, some length of time is necessary to complete the cure, but where it is mild and appears only at stated times, it yields soon to the combined action of this mineral. Though the saline minerals may go some length in relieving irritation by their acting on the bowels, they are not so successful in the cure of herpetic eruptions. Cheltenham, where they are combined with the chalybeate, has been found useful at times, but the sulphureous minerals are of all others the most powerful in cutaneous eruptions, from the active diffusible nature of their impregnation, and in the form of hepatic gas or air, the sulphur acquires wonderful efficacy. Hence the Harrowgate waters are universally employed in this class of diseases, and have justly

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acquired much celebrity. Their success is generally promoted by the bath, raised to a proper temperature, and afterwards removing the patient to bed, and preserving him in a proper warmth for a certain time after the immersion.

It should here produce, taken internally, a sensible effect on the bowels, and this must be kept up in a moderate degree. The time necessary for the course must be regulated by the circumstances of the case, but in very bad instances a considerable time is necessary in order to eradicate the seeds of the malady. Moffat is equally celebrated in this disease as Harrowgate, and the same rules apply to its use ; the same observation may be also extended to Scarborough.

ITCH.

After herpetic eruptions we shall consider an eruption of a specific nature, the itch. This is a disease which consists of small itchy pustules, or sores, of a contagious nature, chiefly affecting the hands and joints, but in time spreading over the rest of the body ; and they are filled with a serous fluid, which flows out on pressure, and is succeeded by a scurfy crust. Where the pustules are large, and attended with considerable inflammation, they pass into boils.

This disease arises from a peculiar contagion, generated by the same causes producing other cutaneous eruptions, and particularly affecting a cold mountainous situation ; and, what is particular to it is, that however great its irritation, the general state of the system is

never

never affected by it, nor the health of the patient injured, though continuing for life.

As sulphur has been always reckoned a specific in this disease, so there can be no doubt of its efficacy, in the form of a sulphureous mineral. The Harrowgate water and the others of this class are properly suited to these obstinate forms of the malady, which resist the usual modes of application, and where the morbid appearances do not go, or depart, after their application, but break out afresh. Such cases frequently occur, and they will seldom resist a course here properly conducted, and where the combined use of the water and the bath go hand in hand.

LAND SCURVY.

After the itch we proceed to what are termed scorbutic complaints, an appellation improperly assigned them, but which is retained by Dr. Willan, in compliance with vulgar prejudice, in describing them under the name of land scurvy.

A slight degree of this complaint often takes place in women and children, who live on a poor diet, and use little exercise. Without any considerable sensation of illness, an eruption of dark red spots appears in the skin of the legs, arms, breasts, and abdomen. These spots are precisely the same as the petechiæ, or spots in malignant fevers; and with regard to size, colour, &c. very much resemble flea-bites, only being without the central point made by the sting

of the insect. On the legs, however, they are usually somewhat larger, and often become confluent in irregular patches. The only disorder attending the eruption is a sensation of general weakness and languor, without any febrile symptoms; and a cure is readily performed by the application of a proper diet and a sufficient degree of exercise. Another form of the disease, which may be entitled hæmorrhagica, or bleeding scurvy, is much more violent and dangerous. For some weeks previous to the appearance of purple spots, the patient complains of an oppressive sensation of languor, weariness, faintness, and a gnawing pain at the stomach. Sometimes the eruption is more immediately preceded by shiverings, nausea, bilious vomitings, and acute pains of the limbs referred to the bones. The spots appear first on the legs; and afterwards, without any certain order, on the thighs, arms, and trunk of the body. Their primary colour is a bright red, but this, within a day or two, changes to a purple or livid hue. They are considerably larger than the spots of the simple species, but, like them, are always nearly of a circular form. Sometimes they are few and distinct, sometimes numerous and coherent; they are sometimes distributed uniformly over the surface of the body, sometimes in irregular clusters. In many cases, they are interspersed with vibices, or livid patches, resembling the effects of a bruise.

The hæmorrhagy, or bleeding, which always attends this kind of eruption, is at first very profuse; and, however it may be checked, returns frequently; in some instances, every

every day at a stated hour : it takes place from the nostrils, throat, and mouth ; often from the lungs, stomach, or intestines ; also from the uterus, or womb, even at an advanced period of life. A softness and swelling of the gums is not a constant appearance in the hæmorrhagic scurvy ; when blood is discharged from the mouth, it seems to spring from abrasions on the inside of the cheeks, on the tongue, or tonsils ; all which surfaces are occasionally covered with purple spots.

This disease has no regular, or stated termination ; it has been protracted in the different cases which I have seen, from three weeks to twelve months, or upwards. In none of those cases did the disease prove fatal : it appears, however, from the account of medical authors, that the bleeding has, on some occasions, been so violent as to produce almost immediate death. When the disease has continued some length of time, anasarous swellings, and gangrenous ulcers of the extremities, usually succeed.

The exciting causes of the bleeding scurvy seem to be poor diet, a sedentary mode of life, watching, and anxiety of mind. Hence it affects women in a much larger proportion than men. The complaint, however, is, in this place, very frequent among children who live well, and are under no particular restraint. In such cases, I apprehend, it must be referred to the impure air of a large city, and to the want of the salubrious exhalations from growing vegetables. As a proof of this position, it may be mentioned, that children affected with the disease, on whom the usual remedies have been

applied with little success, are presently cured, after being removed into the country.

The mode of treatment for this disease is simple, and may be comprised in a very few words. It is proper to recommend a generous diet, the use of wine, Peruvian bark, and acids, along with moderate exercise in the open air, and whatever may pretend to produce cheerfulness, or serenity of mind.

Cases of the land scurvy have of late been multiplied in periodical publications relating to medicine, as if the disease were new or extraordinary. It must, undoubtedly, be considered as a branch of the true scurvy, and, as such, it has been properly noticed by the writers on that subject two hundred years ago. It was not unknown to the ancients; for Hippocrates himself has described the eruption, and mentioned some of the circumstances which usually attend it. Actuarius has also shewn his acquaintance with this disease, and theorizes upon it, according to the notions of his own time.

From this account of these complaints, besides the treatment detailed, mineral waters will form here useful remedies, and three classes of them seem adapted to their cure, the simple saline, the saline chalybeate, and the sulphureous. The former are not so powerful in their effects, though they alleviate the inflammatory disposition and acrimony of the fluids. Thus, Epsom water, sea water, Kilburne mineral, and others of the same class, may be used with some advantage, and will be otherwise serviceable if the patient is accustomed to an inactive sedentary life, and a tendency to a plethoric state.

But

But the second, or saline chalybeates, are here more effectual, and Cheltenham has been celebrated for the removal of such disorders. Where again the obstinacy of this disorder is such as to resist the action of these two classes, or to return soon after leaving them off, then the third, or a sulphureous mineral, must be had recourse to, and they will seldom withstand the operation of the Harrowgate water, where it is assisted by the use of the warm bath. When the complaint is once removed, in certain cases it will be necessary to pursue the same plan every season, by way of prevention, and to resort for a few weeks for this purpose to Harrowgate, Scarborough, or Moffat. The Sedlitz water on the continent has here been much praised: after a course of it of three or four weeks it is common to follow it up with the Seltzer.

LEPROSY.

From these lesser affections of the skin we next proceed to those of a more rooted and constitutional nature, and the first to be mentioned is the leprosy.

Leprosy consists in an eruption of whitish, yellow, or blackish spots, on the face, arms, and legs; the skin losing its hair, and becoming unequally thick, scabby, and hard; defaced with scurvy blotches, and insensible even to the puncture of a needle; though, in the neighbouring parts unaffected, a considerable itchiness prevails.

In this manner the disease continues for years, the health remaining otherwise sound; when advancing in its progress, the hairs of the pubes and beard begin to fall off, the

skin of the head to be divided with deep wrinkles, and the breathing, which smells rank, to be impeded, the cheeks at the same time assuming a livid colour, and the voice hoarse and sounding through the nose. In this advanced stage, it forms what is termed the elephantiasis.

In its last stage, ulcerations arise in different parts, preceded by glandular swellings in the cheek, chin, &c. and it assumes the same appearance as the lues in its advanced state, while the mind is here at the same time considerably affected, and a strong desire for venery prevails. Its termination is by the falling off of some of the extreme parts, if the patient survives so long.

A particular species of elephantiasis often appears in this country, affecting the upper lip. It is slow in its progress, is attended with little fætor, but gradually destroys the substance of the part.

This disease attacks chiefly those of a melancholic temperament, rarely affecting women, those who possess a rigidity, and debility, in the extreme vessels; and in such constitutions, excesses of any kind are liable to produce it, especially when joined with a foul putrid diet. It is also contagious.

In dissections of this disease, all the organs have been discovered in a state of putrescency, except the heart.

Two indications are to be attended to in its cure.

The first is, obviating the rigidity of the extreme vessels, by the warm bath; and

The second is, exciting their action by the different preparations of mercury, and of the vitriolic acid; the
chief

chief of the former are Plummer's pill, and the corrosive sublimate solution, joined with decoction of elm bark, and of the woods, &c. Vipers broth, and issues, have also been successful. Much attention to a bland nourishing diet is necessary during the cure, joined with a due proportion of exercise.

From this account leprosy is a disease always obstinate, and too often incurable; and, along with the treatment detailed, the combined treatment by the use of mineral waters externally and internally promises the most certain means of relief. The Bath water, from its temperature, used externally is highly proper; but its impregnation is not sufficiently powerful for the removal of the disease. The sulphureous minerals are here the most successful, and Harrowgate has acquired reputation for the cure of this malady, in preference to all the others. This preference is still more due to the continental waters of a sulphureous nature, as the Aix la Chapelle and some others, from the high temperature they possess, rendering their ingredients more active. Leprosy is more the disease of a warm than a cold climate, and in the former situation it also is more formidable. It is reckoned generally there incurable, and its infection is avoided worse than the plague, or any other disease. From the failure of medicines to relieve it, and from the success of mineral waters here, the artificial impregnation, or preparation of them should be attempted there, where nature has denied this rich boon of mineral medicine. But, on the other hand, it is to be observed, she has more largely supplied the treasures of the vegetable kingdom, and in warm climates exalted

their powers beyond what is known in the colder regions. Along with the artificial mineral water the course should be assisted by the use of the vapour bath ; and for particular parts of the body the air-pump vapour-bath will be a powerful and successful application. The rules for the artificial preparation of the waters are simple and well known.

YAWS.

From leprosy we shall proceed to another disease of a warm climate, though it does not altogether enter our plan, and that is the consideration of yaws.

Though this disease belongs properly to the acute eruptions, and affects a person but once in life, yet many have considered it as a species of lues. It is indigenous in Africa, and only imported into the West Indies by the intercourse of slaves.

Its first symptoms are the appearance of little spots on the cuticle, level or smooth with the skin, at first no larger than the point of a pin, which increase daily and become protuberant like pimples. On the skin being abraded, there is found beneath them, instead of matter, a white slough, which separates, and discovers, growing from the cutis, a red substance of different sizes ; but always preserving, in its form, the appearance of a raspberry.

Though the skin, in general, is the seat of yaws, yet certain parts of it we find oftener affected than others. These are the groins, pudenda, arm pits, and face. There they always appear largest, and their number is commonly

commonly proportioned to their size, being fewest where they are large, and very numerous where they are small. The eruption is sometimes attended with fever where numerous, but for the most part not.

This disease attacks but once, and all the negroes who have had it in Africa never have a second return. Children, and the more early period of manhood, is most susceptible of its attacks. The colour of the hair on the parts affected becomes entirely white.

The contagion of this disease is highly subtile. Hence it is one of the most frequent diseases in the West Indies. It is more commonly received by simple contact in the common intercourse of life, than by coition, and even barely touching the infected person is sufficient to communicate it; so that as soon as a negro shews any symptoms of this disease, he is secluded from the rest, and shut up in a particular part of the plantation, where, left to the use of vegetables, he frequently gets well without any assistance.

Our opinion in this disease is much directed by the mode of treatment; for, of itself, it is rarely dangerous, and for long the health is little impaired by it. But the consequences of the disease, especially from improper treatment, are always to be dreaded; and the ulcerations where numerous, are apt to debilitate the system in a high degree, and even prove fatal.

Like the small-pox, and other acute eruptive diseases, the yaws possess a certain course, though the exact period of this has not been ascertained by practitioners, but extends from one month to two or three, according

to the state of the constitution ; and, in conducting the cure, the treatment consists in observing a strict antiphlogistic course during the first stage, or till the exsiccation of the fungus excrescence begins, the only medicine employed being the use of some mild diaphoretic, as the contrayerva, China, sarsa, sassafras, guiac, used in decoction, or in tincture, to preserve the relaxation of skin. Thus, it is cured by the negroes by the use of certain herbs having the same diaphoretic effect.

In the second stage, when the exsiccation appears, this may be assisted by the cold bathing of the part, touching it with some mild escharotic, so as to hasten the separation ; and when the latter takes place the skin below will be found clear and smooth ; sometimes, however, one large yaw, termed the master yaw, is troublesome, and requires repeated applications ; after which, it degenerates into a common ulcer ; but this is easily healed by common applications, as in other cases of ulcer.

This is the treatment of the disease in its mildest form ; but where the process of nature is interrupted in this exsiccation, instead of the skin being smooth below, a new growth of fungus takes place, and ulcerations attending, spread so as to affect even the contiguous bones with an appearance similar to that of the spina ventosa. By these ulcerations, the constitution becomes impaired, and the disease often proves fatal. In these circumstances, a different treatment is necessarily required.

This consists in the use of mercury. It requires,
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however, here a great deal of limitation, and should be exhibited in small doses pretty long continued, in the manner of an alterative course. This may be succeeded by the sarsa or guiac decoction, so as to ensure the cure.

The topical applications, again, should be entirely of the narcotic tribe, as the hemlock, nightshade, and the numerous articles of that class found in the West Indies. They are far preferable to the astringents formerly employed, or the escharotics; for the use of which, the ulcerations, in this second stage, are too extensive.

From the thickness of cuticle in the feet, where the yaws appear there, the discharge is apt to be confined; and when breaking out, they are difficult to heal, and termed by the negroes the crab yaw, rendering them incapable of walking, and often ulcerating the whole of the sole. The treatment of this ulceration, however, is the same as elsewhere. It is cured by the negroes themselves with an infusion of the bark of the mammy tree and alum; in which the feet are immersed for a certain time, generally nine days.

Inoculation has been proposed for this disease, and it is probable it may be equally successful as in small-pox. The same rules will apply.

This disease, in spite of all the practice detailed, is too often in its consequences an incurable malady. In that case, it is common to make a voyage to this country, for the purpose of a cure; but as this advantage cannot always be had, the same plan pointed out in leprosy will be equally serviceable here, and as the disease is generally more confined to one part, so the local applications

tions can be more depended on, as giving a tendency to the ulcerations to heal ; along with the artificial minerals some of the other medicines detailed in the practice may be conjoined, which will perhaps hasten the successful issue.

SCROFULA.

Three diseases of principal importance become next the subject of our observations, scrofula, rickets, and the venereal disease. The first of these is not only the most general constitutional malady in this country, but it is so interwoven with the common prevailing habit, as to give to the attacks of other diseases a violence of action, and a peculiar modification. It is proper, therefore, to consider it with a marked and minute attention.

Scrofula, then, consists in an indolent hard tumour of the conglobate glands, with little or no pain ; for the most part situated in those of the neck, behind the ears, or under the chin, and often in the joints of the elbows and ancles, at times even of the fingers and toes. In the progress of the disease, they degenerate into ulcers of bad digestion ; the discharge of which consists of a white curdled matter, resembling somewhat the coagulum of milk ; and, previous to their breaking, they acquire a sort of purple redness, and a softness to the feel ; this redness decreases at the place where they break, which is generally by two or three small openings.

The attacks of the disease are confined to childhood, being peculiar to the sanguine, or those constitutions
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which possess fine skins, a soft muscular flesh, and a rosy complexion, with a thickness of the upper lip, and often with swelling of the abdomen. They generally depart after puberty, and are more conspicuous among some nations than others; but it appears evidently a disease peculiar to a changeable cold climate; it is also very much hereditary, but never contagious.

Though our opinion is unfavourable with regard to a cure, yet the disease is seldom dangerous when simply confined to the external surface; but, on leaving one part, it is apt to be renewed in others.

Its attacks also seem much affected by the periods of the season. They begin some time in winter and spring, and often disappear, or are greatly amended in summer and autumn; and it is generally the end of a year or two before the glands pass into the ulcerous state. Such ulcers are distinguished by a flat smooth edge, with little or no callus, and they spread in breadth, but never go deep. When they heal up, they leave an ugly puckering of the skin, and frequently break out again, or the same appearances are discovered in other parts. The appearances of the disease in the eyes and lungs come under ophthalmy and consumption.

On examining scrofulous glands by dissection, they feel somewhat softer to the touch than in their healthy structure. When cut into, they also, at times, exhibit very much the natural appearance; but much oftener they contain a white soft cheesy matter, mixed with a thick pus, the true characteristic of scrofula; and this is all that is necessary to be taken notice of, when examining it merely as an external disease.

Scrofula

Scrofula thus detailed in its history and symptoms, is a disease of constitutional weakness, displayed more especially in the constitution of the fluids, and thence extending its effect to the state of the solids, particularly to the minute glandular parts; though every portion of the system is to be considered as possessing the same morbid disposition. The nature of this imperfection of the scrofulous habit, we already endeavoured somewhat to explain on the subject of pulmonary consumption, one of its leading modifications, and applying the same observations here, the indications we form are;

1. To complete the animalization of the fluids, or give them that proportion of deficient principles which may render them fit for a proper apposition of matter to the solids, and for carrying a sufficient stimulus also to the latter; and, 2. to remove the local affections of the part. The first of these is executed in the manner already noticed, by a sufficient supply of the carbonic acid, and the other parts of the saline principle. An acidulous mineral should, therefore, be largely used, and in order that the tone of the solid may be at the same time augmented, an highly carbonated chalybeate will be most useful. With it the vegetable æthiops is to be administered as formerly recommended, or such change made in the articles of diet as may answer the same purpose, or a certain portion of sea-water as a saline mineral substituted. As during the progress of the disease irritation often prevails, the occasional use of narcotics will be found highly serviceable, particularly the hemlock, and even a farther addition of tonics than what the chalybeate may give, the most proper of which are those

those of the vegetable kind, where the bitter is so strong as to be somewhat narcotic, such as the dulcamara, or bitter sweet, &c. The mineral waters that have acquired reputation in this disease are numerous. Of the acidulous class Malvern, though a simple one, has been much praised, and its action depends here, perhaps, as much on the quantity of it used as on the impregnation. But, of all others, sea-water has formed the great remedy, and a course has been conducted both externally and internally here with the best effects, where the disease has not made great progress, and where no hectic symptoms have as yet supervened ; but, though these good effects will result from it as a preventive, the combined treatment we have pointed out is the only one that will ultimately succeed where the malady has gained a certain progress.

With these views, then, of the constitutional treatment, we shall next descend to the local management, and the affection of parts here is either in the form of swelling or ulceration. The former of these often gives way, or suffers discussion under the constitutional regimen, and this termination of it may be assisted by friction with stimulants, in the combination of which camphor forms the principal part. To assist their operation, the application of the air-pump vapour bath will be found a successful remedy, and even where the swelling is too far advanced for discussion it will tend to promote a laudable suppuration. The ulcerations again have been experienced most effectually cured or their reunion effected by the simple application of water of a low temperature,

perature, and that renewed so often as the temperature becomes changed by the increased heat from the part. Where this water is medicated, as stated in the constitutional treatment, it will no doubt be more quickly successful. But to descend into the management of the disease still more minutely, we shall first consider it in the form of ophthalmia, or sore eyes.

Sore Eyes.

This affection is generally confined to the eye-lids, particularly the small glands of the tarsus, which are either simply inflamed, or pass into ulceration. This disease when arriving at a height is often peculiarly disgusting from the disagreeable appearance the inflamed parts assume.

This form of scrofula is often removed completely by a long course of Malvern water, and this watering place has accordingly, for a great length of time, been in high repute for the cure of sore eyes. The water should be used as an external wash as well as an internal medicine, and by its mild astringent quality it will seldom fail if properly persevered in. The constitutional treatment should at the same time be assisted by the means already pointed out, in so far as is compatible with the present plan.

Mesenteric Consumption.

From the scrofulous ophthalmia we descend to a still more formidable affection, or mesenteric consumption. This affection consists in an enlargement, or diseased
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state of certain of the glands, subservient to the preparation of the chyle, and intended for the conveyance of nourishment into the system. The consequence of this diseased state naturally falls to be a defect of nourishment in the body, which falls off and becomes emaciated, particularly the extreme parts most remote from the seat of nourishment, while the belly, from the obstruction and accumulation in the seat of the disease, and its neighbourhood, naturally enlarges, and is often distinguished in its progress by the presence of dropsical symptoms. Where the disease has advanced far it proves always fatal ; but in the early stages much may be done, both to check its career and also to effect a cure. The indications pointed out with this view are ; 1st, to remove the obstruction which forms the disease, and 2d, to increase the general tone of the system, and amend the habit, so as to prevent any future attack. For the first of these purposes no medicine is so successful as a proper course of mineral waters, and those of the saline class are properly to be preferred. Sea-water has generally had a preference, and its operation may be assisted by interposing small doses of rhubarb and calomel, or a slight use of mercury by friction through the belly ; and to promote the success of these means, the temperate bath may be at the same time conjoined. When the obstruction is somewhat removed, steel becomes properly resorted to as a useful tonic, and a chalybeate water may be, therefore, employed of a mild nature. If the disease, however, has not proceeded any considerable length, a saline chalybeate may be used

used from the commencement of the course, and Cheltenham will answer every purpose in this view ; and the other means recommended may at the same time be conjoined with it. The regimen should correspond to these indications, a proper use of exercise should take place, and the diet be of a mild, strengthening, and easily digestible nature. So general, however, is this affection, and so fatal its tendency, that nearly one half of the mortality in infancy is attributable to this source.

WHITE SWELLING.

Another fatal modification of scrofula next occurs, where it attacks the principal joints, termed white swelling.

White swelling consists in acute pain, without any external inflammation of a joint, attended with a gradual increase of its size.

Though all the joints are occasionally subject to it, its chief effects are displayed in the joints of the knee and ankle.

The scrofulous species is attended with general diffused pain over the joint, particularly increased on motion, with a gradual stiffening of the tendons, and enlargement of the affected parts, which shew at last a varicose state of the cuticular veins, and give, on pressure, a soft elastic feel and sense of fluctuation.

By this state of the joint, the limb shrinks below, or becomes œdematous, and the tumour itself breaking, abscesses form, which discharge at first a somewhat purulent

lent matter, afterwards degenerating into a thin sanies. These abscesses occasionally heal up, and give place to others, while, during this progress, the hectic state continues to advance, and the patient is at last cut off by it, unless its career is stopped by a timely removal of the member.

The cause of this disease is evidently a constitutional taint, and that brought into action by external violence. Our opinion here must be determined by the duration, and many cases of the disease are recovered where active means are timely employed.

Dissections of this species of white swelling show entirely a thickening of the ligaments, and contracted state of the tendons. This thickening is in proportion to the duration of the affection, and is also attended with the effusion of a thick glairy matter into the cellular substance. The cartilages and bones seem never here affected but in the ultimate progress of the disease.

From this view of the disease, the imperfection of blisters, discutients, and bleeding, is fully established, whether the first is employed in the form of issues, or simply repeated frequently, so as to produce the same effect in the part; for it proves in the end, after all the torture it inflicts, but a temporary alleviation. The second, particularly mercury, is of as little avail, and camphor, joined with other stimulants, has no permanent action over the cause of the disease, neither does it attack the root of the evil. Bleeding is even less useful than either of the two former, and is therefore now pretty generally laid aside. Forsaking then these modes
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of practice, it remains to consider how far the action of the vessels of the part can be excited by other means, and the strength of the system increased so as to second the powerful effect of topical remedies.

That water applied of a high degree of temperature will excite a powerful increase of action in the part there is no doubt; and if this temperature is assisted by an additional stimulus from the mode of application, it will be rendered still more effectual for the purpose proposed. The Bath water, applied here by dry pumping, will be found of the greatest benefit, and the frequency of the application, as well as its degree of stimulus in falling, must be regulated by the particular circumstances of the case. The air-pump vapour bath will be still more powerful here from its mode of application, in consequence of the previous removal of atmospheric pressure, and either of them may be employed as suits the inclination of the patient, provided they are steadily and properly persevered in. The action of the vessels being thus all excited, is to be kept up by some farther secondary means, and these consist in friction, either with stimulants or with mercury. This topical plan is to be steadily pursued till a change takes place in the seat of the disease. When this change has displayed itself, and the morbid symptoms appear to give way, the second indication comes then into view, and the strengthening the general habit becomes an important object. The most proper means of doing this is by a chalybeate water, and Moffat has been much celebrated for this effect. But attention is to be paid that no obstructions

structions form during its use, nor should it ever be resorted to till the local affection appear to give way; for if employed sooner the progress of the local affection will be rather urged on by it, and the cure retarded, not expedited.

ULCERATIONS.

The consideration of these more formidable affections we conclude with the treatment of the simple external ulcerations, already noticed in a general way; and this treatment, which has baffled most of the usual remedies, is best conducted by the application of water to the sore, of a low temperature, either simple or medicated, for in both states it has been used. Thus it has been long the custom to apply the Malvern water to scrofulous sores, and even caries of the bones, and its effect has been to moderate the profuseness of the discharge, to correct the factor which so peculiarly marks a caries of the bone, and to promote the granulating process and a salutary exfoliation of the carious part. The same success has attended the use of Spa water, and also of the sulphureous water of Moffat. In making the application, a cloth is wetted in the mineral, and applied on the sore, which is to be renewed so often as it dries, on which perhaps the success chiefly depends. In a similar manner the application of the carbonic acid itself has been found equally successful, from which we infer, that the facts we have already adduced on the nature of scrofula are confirmed; but whatever local treatment we adopt, the constitutional one already pointed out must still proceed under the regulations and cautions

tions already laid down, as applying to particular cases.

To confirm still more what has been advanced on the nature of this formidable constitutional disease, and its various modifications, we have further to observe, that it disappears in its external forms at a certain period of life, or the age of puberty. Two circumstances then occur which easily account for it : a secretion is formed in the testicles of a peculiar nature, which, received into the system, and not in general so rapidly expended at that age, gives tone and vigour to the constitution. The age of puberty again ushers the boy more into life. A change in his diet and former puerile regimen begins to take place. He begins to associate with the man, and these changes perfect that deficient state of the fluids, and lessen or obviate the general debility of the constitution observable at the former early period.

RICKETS.

From scrofula our views are next directed to another malady, which has been considered by some as merely a modification of it, and by others as a separate affection. This is rickets, a disease peculiar to infancy, and which is displayed by a peculiar enlargement of the bones in certain situations, and they are farther distinguished by an uncommon size of head, especially anteriorly, swelling of the joints, flattened ribs, protuberant belly, and general emaciation of the other parts.

This disease was first accurately described in the year 1650, which has rendered its appearance, since that time,

time, a greater object of attention; and though it may have been known to the ancients, no full or complete description of it is to be found in their works.

Its effects are commonly begun soon after birth, from the sixth to the ninth month, and they seldom begin after the second year.

The child first loses his usual cheerfulness, becomes peevish and dull, the colour of his cheek, if rosy, departs, and he sensibly falls off. The peculiar marks of the disease then begin to appear. The forehead turns prominent, and the head, in general, enlarged in a proportion far exceeding the growth of the other parts, which inclines him to rest it, from its weight, on the shoulders. The least exercise becomes then painful, and an inclination to lie is observable.

But, in spite of this diseased state, the appetite for food turns keener, and the belly is commonly loose.

The bones gradually soften, and become curved, especially the back-bone in different parts, the ribs flatten and feel knotty, and the breast becomes sharpened.

The belly is swoln, tense and hard to the touch, dentition is here later than usual, and the teeth, when appearing, soon spoil and are lost.

With regard to the mental faculties, the understanding is here uncommonly mature.

This disease is, for the most part, hereditary, and oftener derived from the mother than the father. It begins about the seventh month, and seldom leaves the child till the end of the third year. It may be traced in the same constitutions which are subject to scrofula,

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though the two diseases seem perfectly distinct. It often appears also after some of the exanthemata, or acute eruptive diseases, and is more conspicuous in the children of the lower ranks.

Its causes we are entirely unacquainted with. There appears evidently a defect of osseous matter, and also a want of energy in the system to prepare it; for, in its place, in the end of the round bones, we find a growth of the flesh, or soft substance, where bone should be. In all cases, too, there seems to be a diseased state of the mesenteric glands, and of the organs subservient to the preparation of chyle or nourishment; but how these should occasion the particular set of symptoms described, we cannot explain.

A similar affection, or softness of the bones, has been known, in advanced life, to follow certain diseases, as chronic rheumatism, lues venerea, &c. and even an immoderate use of salt in diet: but here it is chiefly the bones that are exposed to pressure, that undergo this change, in which it differs from rickets, and it also is incurable.

In spite of the unpromising symptoms described, rickets are a disease not so frequently fatal, though it continues some years, and is attended often in its progress with considerable fever; for, as the growth proceeds, the bones become firmer, and the symptoms disappear. The curvature, indeed, is never entirely recovered, but in process of time it becomes a good deal repaired; the chief danger here is, when the distortion of them becomes so great as to affect the situation of the lungs and other organs, when the enlarged size of the
head

head shews a considerable pressure of water present in it, or when the food is passed in its natural state, unchanged by digestion, which shews the mesenteric glands highly diseased. The appearance of a scabby or cutaneous eruption has been reckoned, in this disease, favourable.

In opening the bodies of rachitic patients, various morbid affections of the internal parts have been discovered. Most of the viscera of the abdomen have been found to be preternaturally enlarged. The lungs have been also found in a morbid state, seemingly from some inflammation that came on towards the end of the disease. The brain has been commonly fluid, with effusion of a serum into its cavities. Very universally the bones have been found very soft, so much so as to be readily cut by a knife. The fluids have been always found dissolved, and the muscular parts very soft and tender, and the whole of the dead body without any degree of that rigidity which is so common in almost all others.

Though the cause of this disease is so uncertain, there is little doubt but invigorating the system is to be relied on as the chief means of cure ; for this purpose, tonics are strongly indicated, particularly the preparations of iron, the bark, and cold bathing.

Of the first, the best is the *ens veneris* of Mr. Boyle, or, in its place, the *flores martiales* ; they should be assisted by an occasional emetic, which, from its stimulus, will tend to remove the obstruction of the mesenteric glands, and they may be joined with a little rhubarb, by which their powers will be increased ; preparations of copper are also useful here.

The bark, though in other cases a powerful tonic, has not been observed to do much.

Cold bathing is a remedy admirably suited to this disease, as the experience of all practitioners has confirmed; and on that account, even as a preventive in the treatment of children, it should never be dispensed with; full immersion should take place when employed. It should be succeeded by the use of friction, which has been much commended, and it will render the tonic effects of the previous bathing more powerful; even the virtues of the friction may be also increased by employing along with it the skate oil, which has been so highly praised in this disease, as an external application. Absorbents are mentioned as a remedy here by some authors, as also the cicuta.

Air and exercise are not to be neglected in the list of the tonics, from the benefit they confer in every state of infantine weakness.

The diet in this disease should be of the most nourishing kind, and easily digested, and a pretty liberal use of wine should be allowed.

To obviate or prevent the distortion arising from this disease, various local applications in the form of bandages, machines, &c. have been invented; but the consideration of these is properly the business of surgery.

From this account of the disease, steel and its preparations are the chief remedies depended on, and in no form, experience tells us, are they presented in such an active state, or so diffusibly arranged, so as to pervade the minutest recesses of the body, as in the form of mineral

neral waters. As the seat of the affection or the bones is supplied by such a small series of vessels, it is only medicines in this minute and diffusible state that can act with full effect. The most powerful chalybeates are here the most useful. Hence Tunbridge and the highly carbonated ones of the continent should chiefly be resorted to. Along with the internal use of chalybeates the tonic powers of bathing should be also employed, beginning with the temperate bath, or such as suits the patient's feelings at the time, and gradually lessening the temperature as amendment takes place. The bath may be succeeded by brisk and powerful friction, as already noticed, rendered more successful by the assistance of stimulant oils, and the skate oil has been particularly noticed for this purpose, though any other may be rendered equally stimulant for this purpose. Particular symptoms will require a separate management, or attention to the state of stomach and bowels, the rhubarb and other bracing laxatives being here made useful. The same regimen will be also proper here as directed for scrofula. Both are diseases of general debility, differing only in the seat of it, and differing in other circumstances respecting it.

VENEREAL DISEASE.

The venereal disease, the source of so much pain as the price of sensual enjoyment, falls to be mentioned here, more with a view to treat of its consequences than as forming a subject of the present line of practice in its primary stages. These consequences, however,

are more to be dreaded than the effects of the acute action of its poison, and they generally either undermine the constitution at once, or lay the seeds of bad health for the remainder of life. They may be reduced to three heads.

1. A state of constitutional weakness, preventing the use of medicine for the cure of the disease.

2. Bad health from a venereal cause, but so disguised as to be uncertain.

3. Local affections the consequence of the remedy employed for the cure.

1. *Constitutional Weakness.*

In many cases the venereal disease appears and displays a virulence of infection in the highest degree, but the constitution is actually so weak, or has been so impaired by other causes, that it would be unsafe to begin the use of mercury till the constitutional debility is repaired. Tonics are generally here prescribed, particularly the bark and vitriolic acid, and more latterly the nitrous acid has been substituted for the latter, from its supposed antivenereal qualities. The use of chalybeates, we should imagine, afford a more speedy means of renovation, and a powerful chalybeate should be resorted to at once with this view. Tunbridge water, with the use of its baths, will be a desirable remedy, as the latter, by its action on the surface, will prepare it, or put it in a fit or perspirable state to receive the action of mercury. Where a course of mercury is begun in such weakened and infirm habits, without this mode of preparation,

paration, the worst consequences are found to arise. The debilitated solid gives way under its use, the disease shews no tendency to heal, and the ulcerated parts continue daily to extend. By renovating the constitution these effects are guarded against, the disease continues nearly at a stand, or makes but slight progress, and the course of mercury, when begun, is perfected with success. Nay, it may become necessary in some cases to stop the mercury in its progress, and suspend for a little while this course even where begun, which a judicious practitioner will always be able to judge of.

2. *Disguised Complaints.*

In every author who has treated on the venereal disease, we find this subject descanted on at large. A person complains of bad health without being able to assign a proper cause: he is troubled with occasional pains in different parts of his body, referred generally by himself to a rheumatic origin. He discovers a leaden sallow look. He pines daily, and falls off, but he has had no venereal complaints for a length of years, nor been in the way, as he himself supposes, of getting infection. He never, therefore, attributes it to a cause of this kind. To discover, therefore, the origin of these complaints is an object of the first importance, and this we readily do, by combining mercury with a chalybeate. Though it has been commonly done, by giving the prepared steel in substance, the chalybeate water will certainly have the advantage of both, sitting lighter on the stomach, and also being more diffusible in its action, the point here

so much wanted. The strongest simple chalybeate should be chosen for this purpose, and it may be accompanied with the temperate and warm bath, according to circumstances, till the cure is completed.

Mercurial Debility.

The general debility that succeeds a course of mercury requires frequently a particular management, as well as that which we have treated as attending certain constitutions on the first attack of the disease. But this debility, in order to be quickly repaired, requires that what portion of the mineral may still pervade the system, should have its farther activity entirely repress. Instead of a chalybeate, then, a sulphureous water becomes the proper remedy in this view, from the known effect of sulphur in rendering the action of metals inert. It should not, however, be taken in that quantity as to affect the bowels, but should be confined to pass off by some of the other excretions. The bath may be also used, the temperature of which at first should be as high as it admits, and gradually reduced till it end in a very low temperature. When this takes place, if the patient does not feel sufficiently renovated, he may then exchange the sulphureous mineral for a chalybeate, which will complete his cure.

3. *Local Affections.*

Impotence.—One of the effects of venereal complaints most dreaded, and often supposed where it does not exist, is impotence. This subject has been very ably and judiciously treated by my ingenious fellow student
and

and friend, Dr. A. Buchan; and as his sentiments so perfectly coincide with my own, I shall beg leave to present the reader with an extract from them, as inserted in the appendix to his father's Treatise on the Venereal Disease.

Next to those wants, Dr. Buchan observes, which are immediately connected with the preservation of the individual, the most powerful appetite nature has implanted in animals, is that which is subservient to the propagation of the species. On the ability to perform this mysterious and important function with due propriety, men in general pride themselves much. Any consciousness, or even suspicion of deficiency, on the contrary, affects the mind in a very peculiar manner. And again, the influence of the mind in consequence of too much attention to the subject, connecting itself with an operation that is purely involuntary, and ought to be the effect of external excitement, alone tends much to aggravate the disease. If the patient imagines that any acts of imprudence on his own part have been instrumental in laying the foundation of his malady, he is apt to be strongly affected by remorse that oftener terminates in suicide than is perhaps generally suspected; Nature thus avenging the violation of her primary law, by rendering that existence irksome to the individual which he has rendered himself incapable of transmitting to another. Impotence is sometimes the consequence of particular symptoms of the venereal disease. A swelled testicle may terminate in selurru, and prevent the secretion of semen: Instances are also recorded of

these glands, after having been enlarged, gradually wasting away till no vestige of them remained. There is also a well authenticated case, where, in consequence of suppuration having taken place in both testicles, the semen in coitio, instead of passing along the urethra, was discharged by apertures in the scrotum. Here, indeed, neither inclination nor power was deficient, but the purpose was totally frustrated. Such cases are indeed to be lamented, but they cannot be cured. We are acquainted, however, with an instance, where, in consequence of a great deal of disease, more than an inch of the extremity of the urethra was obliterated. After recovery no defect of desire or ability was experienced, the person having since begot children. Temporary impotence is sometimes produced by a long protracted gleet, which in general disappears with the disease. Often it is the consequence of intemperate indulgence in the use of spirituous liquors at an early period of life. In such cases sea bathing has the most salutary effects. A variety of this complaint, of much more frequent occurrence, appears to be connected with a peculiar state of mind. The malady now alluded to, most frequently takes place among young men confined to sedentary occupations, and more particularly among those engaged in literary pursuits. If towards that period of life, when nature, intent on perfecting the individual, evolves a degree of vital energy by which youth is irresistibly impelled to the most active exertions; boys, instead of being permitted to co-operate with her intentions, and complete the developement of their limbs,

limbs, by indulging freely in athletic exercises, be confined to school, or to occupations where the faculties of the mind are called into action, in preference to those of the body, the superabundant irritability is very prone to expend itself on wrong objects. In such situations, improper habits are readily acquired, at first by imitation, and they are in general continued from ignorance of the injurious consequences to which they ultimately lead. To supply the place of the natural object, the powers of imagination are brought into action. By repeated voluntary efforts to retain certain ideas in the mind, combined with peculiar organic operations, new associations between the mind and some of the corporeal actions are established, and volition is gradually brought to influence a function, which, according to the dictates of nature, ought never to be exercised but under the sole influence of appetite. In consequence of frequent repetition, certain organs become at length more readily excited to action by the influence of the mind, than by the operation even of their natural stimuli. Hence the origin of nocturnal emissions: some slight local irritation of the parts of generation agitates the first link of that chain of ideas, which, in the manner already explained, has been artificially associated with the actions of these organs; uninterrupted by volition, and undisturbed by external impressions the train proceeds, and the organs complete their functions in obedience to this unnatural impulse. This theory might, perhaps, be extended, were this a fit place for such disquisitions, to explain the phenomena of dreaming in general. Like

other dreams, these also most commonly occur towards morning, because the renovation of irritability taking place during sleep, renders the system more susceptible of every impression. By each successive repetition, the new association is farther confirmed, and the difficulty of breaking through it increased, while the ability of duly performing the natural act is proportionably impaired. By the improper interference of the mind the parts are either hurried into unnatural rapidity of action, or from being long accustomed to obey the influence of the imagination, they cease altogether to be excited by their proper object. To discover and to check in their commencement the vicious habits from which these complaints originate, comes more immediately within the province of those to whom the important task of education is entrusted. It constitutes, indeed, a delicate and a difficult part of their duty. Let us, however, be permitted to suggest, that ridicule and contempt would perhaps be found more effectual weapons to combat a propensity to these immoral and enervating habits, than a more serious representation of their ultimately injurious consequences. To comprehend the latter, necessarily implies the possession of a share of information concerning subjects with which it is better at least to suppose the young mind unacquainted. But when the mischief is done, and the mind has taken the alarm, whatever may be deemed the most prudent conduct on the part of the tutor, it never can constitute any portion of wisdom, and still less of duty in the physician to aggravate the mental distress of his patient,

patient, by insisting on the moral evil of such habits beyond what may be necessary to prevent a repetition of them, which, however, is rarely necessary, when the patient has become sufficiently sensible of his situation, to apply for the assistance of medicine. If the reasoning by which we have attempted to prove that the species of impotence commonly imputed to habitual indulgence in these practices, depends in fact on the establishment of a new and artificial association between the mind and the organs of generation, be in any degree conclusive, the principal indication of cure must consist in an attempt to interrupt or destroy this new association : when that object is accomplished, the organs supposed to be defective will, with the return of general health, be found to resume their natural and proper functions. The efficacy of opium in diminishing the sensibility of the nervous system, and its well known powers in obviating the recurrence of certain periodical convulsive diseases, arising from peculiar irritations, a class of complaints with which nocturnal emissions have considerable analogy, point it out as one of the best means of interrupting new associations of action in the living body. It was first employed with success in this particular complaint by the late Mr. John Hunter, and when duly administered, is generally productive of the desired event. The preparations of opium are various : dissolved in vegetable acid or in water, or in form of an extract made by evaporating the aqueous solution, this valuable medicine seems to be exempt from some of the unpleasant consequences attending the use of the spirituous

tuous tincture. The dose of the opiate requires to be gradually augmented in proportion as the system becomes habituated to its operation. Its use must also be discontinued in the same guarded manner. Costiveness should be prevented by combining some gentle purgative with the opium, as a few grains of rhubarb or of the galbanum pill. Having by these means succeeded in interrupting the acquired association between the mental and organic actions, the object next in importance is to prevent the mind from recurring to its former associations. This is to be attempted by endeavouring to occupy the attention with different pursuits. In vain can it be expected that "a mind diseased" is capable, by a voluntary exertion, of ceasing to dwell on any particular series of ideas. The very effort to banish it, keeps the forbidden theme ever present to the recollection. In his celebrated work on education, Rousseau has with much propriety suggested that the period of youth, when the nascent passions are most liable to be inflamed, either by the imagination or the senses, should be as much as possible occupied in the sports of the field. The ardour with which, at that period of life, these diversions are usually pursued, excludes every other idea, while the necessary corporeal exertion exhausts the superabundant irritability of the system, and days of fatigue are followed by nights of profound repose. On a similar principle, a journey, a sea voyage, engaging in some active pursuit, or in situations incompatible with such conduct, even attending with assiduity to business, will be found useful in interrupting the association on
which

which the complaint in great measure depends. In proportion as the system becomes invigorated, an appetite for plain and wholesome food will of course take place. The diet ought to consist principally of animal food ; the flesh of adult animals, as beef and mutton, as containing a less proportion of the gelatinous principle, is preferable to veal, lamb, or pork. Milk, butter, eggs, sugar, and all such aliment as affords a copious supply of nourishment, rather of a moist and flabby, than a firm and substantial nature, are to be avoided. As a leading object in the treatment of these complaints is to diminish, at least temporarily, the undue secretion of semen ; this, like the other secretions, being in some measure proportioned to the quantity of moist aliment taken into the system, it will be found of importance to diminish the use of fluid in general to as small a quantity as is found to be compatible with health. Tea and coffee should be very sparingly used, or rather if possible wholly abstained from. The more proper beverage is Port wine and water. During the night the covering ought to be as light as a moderate degree of warmth will permit. To sleep on a mattrass is preferable to a bed of down, and it is of particular importance not to indulge a moment in repose after the termination of the natural limits of sleep: "The head," as Osborn says, "being at that time too apt to become a cage for unclean ideas."—Bathing in the sea, or in a river exposed to the influence of the sun, is in general salutary ; but, to individuals afflicted with the complaints now under consideration, we have frequently found the cold bath injurious. The
enfeebled

enfeebled constitution is much benefited by a bath of a temperature nearly equal to that of the living body, such as are the thermal springs of Buxton. Other remedies require to be varied according to peculiar cases and constitutions. Tonics, as they are usually termed, are not always useful. Elixir of vitriol taken in Bristol water, natural chalybeates, such as those of Tunbridge and Hampstead, artificial preparations of steel, of which the most efficacious is the carbonate and the ætherial tincture, are occasionally found beneficial. From the use of the terra japonica, or extract of catechu, we think we have observed good effects in diminishing the inordinate secretion, which, as has been already observed, constitutes part of this disease. We were first led to employ it from an observation contained in the account of the tree producing the terra japonica, communicated by the late Dr. Fothergill, "That when too profusely used, it was supposed by the native physicians of India to destroy the venereal appetite." From its modified administration, advantage may certainly be derived. All attempts to stimulate the system, aphrodisiacs, if any drugs actually deserving such an appellation exist, are decidedly injurious. Fatal consequences have sometimes been the result of an imprudent recourse to such means. From a steady perseverance in the plan now recommended, of which the leading principle is to destroy the association that has been artificially introduced between the imagination and the actions of organs which ought to obey the impulse of appetite alone; while the second attention is, by
invigorating

invigorating the system in general, to render it less susceptible of slight impressions; the restoration of a certain measure of breath proportioned to the injury the constitution had previously sustained, may with confidence be expected. It ought to be generally understood, that for this class of complaints no specific remedies can in the nature of things exist, and that all pretensions to such are founded in imposition. Matrimony must, indeed, be considered as the completion of the cure, and among many whom we have known enter into that state with considerable diffidence, we have never heard of any physical reasons for repentance. As a farther illustration of the doctrine that has been now advanced, it may be observed, that even the most vigorous and healthy men are liable to casual impotence, originating from affections of the mind. If an opinion be entertained, that, on some particular occasion, it is incumbent to exhibit more than usual proofs of virility; or if a person be impressed with a doubt concerning his own powers; or if the imagination be overawed by the superior rank, or uncommon accomplishments of the other party; any of these states of mind, which are in fact but different modifications of the passion of fear, may produce temporary impotency. Hence also, we are enabled to account for the singular fact of particular men being impotent with respect to some women, while they are by no means in a similar predicament with regard to others.

To the above just statement little is to be added, and the treatment may strictly be comprised in, 1. removing
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ing the irritation on the parts by the use of opiates; 2. in giving strength and vigour to the system by chalybeates and other tonics, and bracing the seat of the disease in particular, by the topical as well as general use of the bath, first suited to the feelings of the patient, and afterwards gradually lowered in its temperature; 3. in breaking the chain of ideas which connect the mind with venereal propensities, and leading it to be fully engaged with other objects and pursuits. All these advantages a watering place fully affords, perhaps with more satisfaction than can be procured in any other way.

Ulcerations.—Another consequence of the remedy employed for the cure of the venereal disease, more than from the disease itself, is the formation, or spreading of ulcerations in particular constitutions under its use. This often occurs where a sufficient quantity of the remedy has at times not been used, and at other times it seems evidently to arise from using it in excess. Most writers of late have treated of these sores, and Mr. Bell has described them at some length. The edges, he observes, become hard and livid; the matter thin, sharp, and fetid; and, instead of healing, the ulceration gradually becomes more extensive; or if it heals in some parts it breaks out in others, giving a honeycomb appearance to all the under part of the belly and upper part of the thigh. Patients labouring under sores of this kind are frequently reduced to the greatest distress and danger. The pain with which the sores are attended is often intense; the absorption of acrid matter induces hectic fever; the patients become hot and restless through

through the night ; and almost a total want of appetite soon deprives them entirely of strength. In the first place, we are here to suppose that the patient has taken a sufficient quantity of mercury, and that no sinuses are left in which matter in any quantity will be allowed to lodge. Hemlock in such circumstances has sometimes proved useful ; and sores of this kind have been healed by the external use of it, when no benefit was derived from the usual dressings. In such cases it was applied in the form of poultices, by mixing the juice of the fresh herb with the common emollient cataplasm. In the internal exhibition of *cicuta*, the recent expressed juice has sometimes been observed to prove more effectual than any other form of it. Very complete trials have been given of the *hyoscyamus* and *belladonna*, but with no material advantage. *Sarsaparilla*, *guaiaicum*, and *mezereon*, all prove useful here ; and they seem to act with most advantage when used all at the same time : *guaiaicum* and *mezereon* prove even useful when used separately ; but they are found to act with most advantage when combined in the form of the Lisbon diet-drink, which ought to be used daily by drinking a cupful from time to time.

But the most effectual course hitherto tried is the destruction of the hard edges of the sores, either with lunar caustic, or the scalpel. When caustic is used it must be applied repeatedly ; whereas in using the scalpel we remove all the diseased parts at once. Opium proves in this state of these sores a very useful remedy : it not only gives temporary relief, but, by lessening or removing

ing pain, excites a tendency in the sores to heal, and ought, therefore, in all such cases to be used with freedom.

In the local treatment of sores of this kind it has been found from experience that escharotics answer better than emollients. In general the former may be used with freedom, particularly those of the mercurial kind. After destroying the edges of the sores with the scalpel, red precipitate mercury in fine powder is the remedy chiefly to be depended on. In some cases it is daily sprinkled over the sores; but for the most part it acts with sufficient effect when mixed with any of the common ointments, in the proportion of one-fourth of the powder to three-fourths of the ointment. Instead of creating pain it commonly removes it; and it seldom fails to alter the discharge, from a thin sharp sanies to a thick well-digested pus. Mucilage of gum-arabic, impregnated with calomel, sometimes answers in the healing of these sores when the usual dressings fail. A drachm, or even more, of calomel, may be mixed with one ounce of thick mucilage. Opium proves sometimes useful here as an external application; for, although there are no proofs of its curing any symptom truly venereal, sores remaining after the venereal disease have been completely removed by it, where large quantities of mercury had previously been given in vain. It often appears that these sores, as well as others proceeding from different causes, are kept up by that pain and irritation with which they are commonly accompanied when the matter is thin and acrid. Opium, by removing this state
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of irritability, seems to destroy the disposition in the vessels of the sore, to form that kind of matter which by its own acrimony serves to perpetuate itself; and this being accomplished, if no other interruption takes place, nature alone will seldom fail to complete the cure. If this idea is well-founded, there can be no necessity for giving opium in such large quantities as of late have been advised. On the supposition of opium being possessed of some specific powers in the cure of the venereal disease, it has been given in as large doses as the patient could possibly bear: and by beginning with small doses, and increasing them gradually, there have been instances of its being taken to the extent of half a drachm, or more, two or three times a day. It does not appear, however, that any advantage has been derived from it in those large quantities which was not afforded by its more moderate use. It proves equally useful when it merely lessens or removes pain as when given in the largest doses.

To these observations we may add, that the use of a sulphureous mineral during the application of any of these remedies will be attended with the greatest advantage, particularly where mercury has been too freely administered, and both Harrowgate and Moffat have been celebrated for the cure of these sores, after every other treatment has failed. An excess of oxygen in the system, which mercury introduces, is best counteracted by the sulphurated hydrogen, and applied to the sores as a dressing, it takes off their irritability, and disposes them to heal. Where those sores run deep there is often
much

much tendency to bleed, and attention is, therefore, necessary in every application made to them. Besides, the resort to a watering place tends of itself to re-establish the health, which has suffered from the effects of medicine and the stagnant air of a town, so much so, that often a change to the country and a milk diet are alone sufficient, on giving up the mercury, to effect a cure.

Having now exhausted the numerous list of diseases to which the use of the mineral waters come to be applied, as potent and effectual remedies, it still remains to consider some local affections on which they also powerfully act.

OLD SORES.

No class of local injuries receive more relief from mineral waters than old sores or ulcerations, which are so apt to occur in lax, spongy habits, particularly in the lower extremities. The simple acidulous minerals have been famed for cures of this kind, and the water is used as a dressing, as well as internally exhibited. This plan or topical means was assisted by a surgeon, Mr. Baynton, by the use of a bandage applied in a particular manner around the member, conceiving that a proper support, and the simple application of water, was sufficient to effect re-union. Mr. Baynton's idea was certainly just, that re-union in this way is quickly effected; but though effected, the consolidation of the parts does not remain permanent, a proof that the virtues of the mineral, both externally and internally applied, are necessary to the perfection of a cure. As well as Malvern, the Hartfell
water

water has been much celebrated for similar cures; and from being a chalybeate dissolved by the sulphuric acid, it cannot fail to be still more successful in old and languid ulcers, where the texture of the diseased parts is very lax, and the discharge passive and ill-conditioned.

OLD SPRAINS.

That injury which is done to part of a ligament or tendon, and constitutes sprain after the active inflammation is over, passes often into a chronic state, which is more troublesome, and is attended both with much pain, and a loss of motion to a certain extent, or at least difficulty in the performance of it. To relieve this chronic stiffness, no remedy has been found more useful than the Buxton water used in the form of a bath, and in consequence of this relief, it is the annual resort of numbers troubled with that painful affection. The internal use of the water is of less consequence here, though where the disease is in a scrofulous habit it will be also useful. But in many cases the temperature of Buxton water is not sufficient to relieve that rigidity of the parts so conspicuous in old sprains. The Bath water will be then preferable, used by dry pumping, and the degree and frequency of its application must be regulated by the individual circumstances of each case. Perhaps the warm sea bath will be still more powerful than either, from the strong stimulus its saline principle possesses; and where it can be had of this high temperature, it will be found the most successful mode applied to such injuries.

GENERAL CONCLUSION ON THE NATURE AND USES OF
WATER.¹

We have thus taken a brief view of the several parts of the subject we proposed in the commencement of the present work, and given a sketch of the numerous objects that fall within the scope of it; and to render the matter still clearer, we shall here recall to the reader the leading facts that have been detailed at some length in the preceding part, when he will be naturally led to coincide with the remark of the celebrated Hoffman, already quoted, that water comes nearer to that universal remedy so long sought after than any other, and it is only by knowing the full extent of its powers we can properly appreciate its value.

Simple Water.

1. The first fact we are to be led to is, that water is the proper solvent of all we take in, and the softer its quality, the greater its solvent powers.

2. That the temperature of this solvent is as necessary as its use, and requires a proper variation in different cases.

3. That the degree of solution or quantity of water required varies with the different states of the stomach, and also the nature of the food.

4. That water forms even a necessary part of nutrition, and prevents the wearing out of the vital powers.

5. That its use in acute diseases is important, by acting in allaying thirst, in opening the different secretions,

tions, in forming a safe stimulus by its quantity, to remove the morbid cause, and particularly by its diffusibility in extending its influence to take off the constriction of the small or extreme vessels of the surface.

6. That its exhibition in chronic diseases is equally important: and here attention to its purity, joined with temperature, is an essential circumstance. Complaints of stomach and bowels are relieved by a regular course of it daily in divided doses, and obstructions of most of the organs are so far benefited, that it proves a useful auxiliary to the other means employed.

Mineral Waters.

7. That mineral waters, besides the advantages pointed out that they possess in common with water in its simple state, hold also in solution, and in their most active form, medicines of a powerful nature.

8. That the acidulous waters, the first class of them known by their sparkling and æciform quality, are suited to relieve all those deranged states in which a loss of sense or motion occurs, and in doing this their influence is in proportion to the scale of their temperature.

9. That the saline waters, distinguished by their purgative effects, are serviceable wherever obstruction of any of the organs prevails, or an acrimony of the fluids is conspicuous.

10. That the chalybeates, marked by their striking a black colour with vegetable astringents, and by their depositing an ochry sediment, are powerful, safe, and

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diffusible

diffusible tonics in all cases of fever, debility, or weakness of body, without any permanent visceral obstruction; in which case their use is improper.

11. That the saline chalybeates are in part free from this objection, and are useful both in cases of hepatic and other visceral obstructions, and also in certain acrimonies of the system.

12. That the sulphureous waters, detected by their foetid smell, and also by their blackening silver, are a powerful medicine in cutaneous diseases, worms, and in painful affections of the rectum.

Bathing.

13. That these internal effects of water are at the same time greatly assisted by its external application, and in the greater number of cases this is properly conjoined with its internal exhibition.

14. That in the external use of water much depends also on its temperature, and suiting the degree of it to the peculiar circumstances of the case.

15. That in the local application of water externally, advantage may be taken in the cure of chronic affections, by employing it in its most penetrating and diffusible state, that is either in steam, or by adding to its stimulus, from causing it to fall from a certain height on the part, as in the shower bath and dry pumping.

16. That in all cases of the external application of water, the after treatment is of the greatest importance, and this consists in the proper use of friction joined with unctuous substances more or less stimulant, according

to the nature of the general disease, or the local affection that requires it.

Preparation and Regimen for a Course of Mineral Waters.

17. That in the internal use of mineral waters preparation and regimen are important objects of attention.

18. That preparation is chiefly necessary with the more powerful, or those that induce a tendency to inflammation in the habit, such as the chalybeates; for the temporary fever, induced by the acidulous minerals at first, soon passes off, and the saline and sulphureous, from their purgative tendency, obviate every morbid effect of this kind by their own powers.

19. This preparation consists in the use of an emetic, and afterwards in attention to the state of the bowels.

20. The regimen suited to a course of mineral waters should consist of a light, plain, and easily digestible diet, and that the matters of which it is composed may interfere as little as possible with the action of the mineral; and the drinking the waters should also take place at a time as distant from the reception of food as possible. The beverage should be confined chiefly to the use of the water, and as little fermented liquor used as possible. Malt liquor should be entirely avoided; wine or diluted spirits should only be employed in sparing quantities.

21. That the action of mineral waters will be much assisted by exercise, but the nature of this, and whether active or passive, must be regulated entirely by the particular circumstances of the case.

22. That wherever water is used externally of an in-

creased temperature, the surface must be afterwards preserved in a proper warmth and moisture by means of flannel.

23. That mineral waters are to be considered as remedies of slow operation in inducing the changes they accomplish ; perseverance is, therefore, necessary in conducting a course, and even occasionally intermitting it for a short time when the waters seem to lose their effects, will be of great utility.

24. That where evacuations are produced by them to any extent, the length to which these should be carried must be determined by the strength and feelings of the patient.

TABLE

Of the principal Heads of the Treatment by Mineral Waters proposed for the preceding Diseases.

CLASS I.—GENERAL DISEASES.

<i>Internal treatment.</i>	<i>Auxiliary treatment.</i>	<i>External treatment.</i>	<i>Local situation.</i>
Nervous complaints, or asthenic state.	Mild chalybeates, as Tunbridge or Hartfell.	Attention to stomach and bowels, in the use of magnesia, rhubarb, &c.	Pure bracing air.
Relaxation from warm climate.	Bath waters, succeeded by Tunbridge or Cheltenham.	Occasional use of laxatives.	Mild atmosphere.
Palsy.	Use of pure and permanent stimulants.	Removal of accumulation in head or bowels.	Ditto.
		Highest temperature of warm bath, with unctuous and stimulant friction, interchanged with local bath to the part by dry pumping or vapour.	

<i>Internal treatment.</i>	<i>Auxiliary treatment.</i>	<i>External treatment.</i>	<i>Local situation.</i>
Palsy from lead.	Harrowgate waters, succeeded on recovery by mild chalybeates.	Use of oils as laxatives.	Sulphureous bath, with sweating and friction.
Ditto from mercury.	Ditto.	Ditto.	Ditto.
Gout.	Diminution of increased temperature by mild diaphoretics.	Palliation of stomach uneasiness by carminatives, laxatives, and absorbents.	Local bath, by dry pumping or vapour.
Inflammatory species.			Ditto.
Atonic species.	Bath waters, or those of the highest temperature.	Ditto, with the use of stimulant antispasmodics, as the balsams, &c.	Ditto.
Prevention of each.	Water solely in beverage of the softest kind, abstinence from fermented liquors, and limitation in animal food.	Use of much exercise.	Mild air.
Rheumatism.	Sulphureous mineral, as Harrowgate.		
Chronic.		Avoiding cold and moisture by flannel and friction.	Buxton, followed by Bath, by dry pumping, after
			Ditto.

wards terminated by sea-bathing, or Harrogate in preference to Bath, and the same changes afterwards made.

Mild air, and change of scene.

Attention to bowels by occasional use of a saline mineral, with proper exercise.

Exercise on horseback, or sea voyage, so as to engage the mind.

Regulation of the mind by inspiring confidence and hope, and soothing the feelings of the patient.

Mental agony.

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CLASS II.—ORGANIC AFFECTIONS.

Occasional use of a saline laxative where necessary.

Buxton water.

Dyspepsy, or stomach complaints.
a. From high living.
e. With bilious affections.

Ditto.

Bath waters.

<i>Internal treatment.</i>	<i>Auxiliary treatment.</i>	<i>External treatment.</i>	<i>Local situation.</i>
3. From repletion.	Epsom or sea water.	Proper use of exercise, preparatory step being an emetic, with the occasional use of a saline laxative during the course, and proper exercise.	Mild air, and change of scene.
4. From irritability.	Tunbridge water.		Ditto.
5. From pregnancy.	Acidulous waters, as Bath, Bristol, or Seltzer.	Attention to state of bowels.	Change of air and scene.
6. From debauch.	Highly acidulous waters, as Seltzer or Spa.		Ditto.
Spitting of blood. Treatment of it.	Application of cold and astringents, as by ice, ice cream, small doses of cerusa acetata, &c.	Use of opiates to check irritation, with attention to state of bowels and freedom of the surface.	Mild atmosphere.
Prevention of its recurrence.	Use of acidulous minerals, as Bristol or carbonated	Regulation of diet as directed, with introduction of	Ditto.

chalybeate, where no local conges- tion.	the saline prin- ciple into the sys- tem, and exercise passive.	Ditto.
Consumption of the lungs. Progress.	Bristol or Seltzer water, with mu- cilages, as Iceland liverwort, com- bined with mild tonics, as the dul- camara. Mild chalybeates, as Tunbridge or Hartfell. Early use of the carbonic acid and saline principle. Mercury joined with the Bath wa- ter till the system is impregnated, then succeeded by the Cheltenham as the disease gives way. The course finished by Tun- bridge or Spa.	Ditto.
Convalescence.	Diet as above.	Ditto.
Prevention.	Diet as above.	Ditto.
Chronic liver dis- ease.	Mild tonics or bit- ters, diluent diet, and moderate ex- ercise.	Ditto.

<i>Internal treatment.</i>	<i>Auxiliary treatment.</i>	<i>External treatment.</i>	<i>Local situation.</i>
Jaundice in chronic state.	Mercury and soap, joined with Cheltenham water, or Malvern and Seltzer water when from a calculous cause.	Attention to state of bowels, and occasional opiates in case of spasm.	Warm bath. Mild atmosphere.
Diabetes.	Bristol water, with tonics.	Ditto.	Ditto.
Inflammation and ulceration of the kidneys.	Mild acidulous water, as Malvern or Bristol.	Anodynes to soothe the painful state of parts.	Ditto.
Gravel.	Alkalies and absorbents, succeeded by the acidulous minerals, as Buxton, or the acidulous chalybeates, as Tunbridge, Moffat, and Spa.	Occasional use of mild tonics, as the uva ursi.	Ditto.
Diarrhoea.	Bristol and Bath waters.	The occasional use of opiates and absorbents, with dry	Warm bath. Ditto.

Dysentery.		diet and warm dress.		
	Acidulous waters, as Bristol, Bath, and Buxton.	Occasional opiates, absorbents, and tonics.	Ditto.	Ditto.
Irregular courses, or amenorrhœa.				
1. Greensickness.	Chalybeate water, as Tunbridge, Scarborough, or Hartfell.	Occasional use of laxatives where indicated, and moderate exercise.	Ditto.	Ditto.
2. Suppression.	Bath waters, or chalybeates, according to the cause. Saline minerals when at the cessation, and if a plethoric habit.	Occasional opiates. Mild tonics, as bitters, and abstemious diet.	Ditto.	Ditto.
Flooding.				
Passive stage.	Chalybeate waters, as Tunbridge or Hartfell.	Ditto, and exercise passive.	Cold bath.	Ditto.
Whites.	Ditto.	Ditto.	Ditto.	Ditto.
1. Constitutional.				
2. Local.	Ditto.	Tonics and occasional mercury.	Ditto.	Ditto.
Piles.	Saline minerals, as Epsom water, Dog and Duck,	Mild tonics where the constitution is weakened, &c.	Cold bath occasionally.	Ditto.
Chronic stage.				

<i>Internal treatment.</i>	<i>Auxiliary treat- ment.</i>	<i>External treat- ment.</i>	<i>Local situation.</i>
Harrogate, and Moffat, where much pain. Sulphureous mi- neral, as Harrow- gate.	Ditto.	Use of minerals by injection.	Mild atmosphere.
Ulceration of the bladder.	Mild acidulous wa- ters, as Malvern or Matlock, some- times Buxton or Hartfell.	Warm bath.	Ditto.
Strangury.	Ditto.	Occasional opiates. Warm bath, or air- pump vapour bath.	Ditto.
Gleet.	Tunbridge, Hart- fell, and Spā.	Avoiding irregula- rities and exercise, with attention to regimen. Cold bath.	Ditto.

CLASS III.—CUTANEOUS DISEASES.

Shingles, or her- petic eruptions.	Use of Malvern water or Chelten- ham; but what is more effectual,	Attention to the state of the bowels where water is in- effectual.	Warm bath, and local application of the minerals to the sores.	Ditto.
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Itch.	Harrowgate or Moffat.	Ditto.	Ditto.	
Land scurvy.	Harrowgate or Moffat.	Ditto.	Ditto.	
	Use of a saline mineral, as Epsom; or a saline chalybeate, as Cheltenham; or a sulphureous mineral, as Harrowgate, according to circumstances.	Tonics occasionally, as bark and acids.	Ditto.	
Leprosy.	Bath and Harrowgate water, both proper.	Alterative preparations of mercury, as Plummer's pills, the corrosive solution, and the woods.	Vapour bath.	Ditto.
Yaws.	Ditto.	Ditto.	Ditto.	
Consequences of Scrofula.	Strong acidulous waters, or highly carbonated chalybeates, with addition of	Use of vegetable athiops, salted diet, and occasional interposition of tonics of	Sea bathing.	Ditto.

<i>Internal treatment.</i>	<i>Auxiliary treatment.</i>	<i>External treatment.</i>	<i>Local situation.</i>
the saline principle.	a mild narcotic nature, as dulcamara.		
Malvern water.	Ditto.		
Saline minerals, as sea water, succeeded by saline chalybeates, as Cheltenham.	Alteratives, as calomel and rhubarb, with strengthening diet and moderate exercise.	Malvern, as a wash. Temperate bath, with friction.	Mild atmosphere. Ditto.
1. Sore eyes.			
2. Mesenteric consumption.			
3. White swelling.	Tonic plan, so soon as the disease begins to yield to the local means, as Moffat, &c.	Bath water, by dry pumping, or the air-pump vapour bath, succeeded by friction, with mercury or stimulants.	Ditto.
4. External ulcerations.	Use of Malvern, Spa, or Moffat.	Use of the mineral waters to the sores wetted as often as drying.	Ditto.
Rickets.	Chalybeates, as Tunbridge.	Cold bath, succeeded by friction, with stimulant oils, as the skate	Ditto.

Venereal disease.				
Consequences of.				
1. Constitutional weakness.	Tunbridge, or any other chalybeate.	Ditto.	Occasionally bark, and acids interposed.	Ditto.
2. Disguised complaints.	Ditto.	Use of mercury.	Temperate bath.	Ditto.
3. Mercurial debility.	Sulphureous mineral, as Harrogate.	Occasional tonics.	Ditto.	Ditto.
4. Local affections.	Chalybeates.	Opiates and tonics.	Cold bath, general and topical.	Ditto.
5. Impotence.	Sulphureous water, as Harrogate or Moffat.	Ditto.	Sulphureous bath.	Ditto.
6. Ulcerations.	Malvern or Harfell.	Ditto.	The water to the sores.	Ditto.
Old sores.	Buxton water.	Ditto.	Buxton water, succeeded by Bath or warm sea ditto.	Ditto.
Old Sprains.				

CONCLUSION ON MINERAL WATERS.

In the foregoing detail of the use of mineral waters, we have thought it proper to consider them in their natural state, but where peculiar circumstances often do not permit a patient resorting to a water of a compound nature, it is sometimes adviseable to mix waters of different qualities, so as to procure the necessary combination for the treatment of his complaints. Thus a simple chalybeate, with a proportion of a saline mineral, will form the Cheltenham water, and the same principle may be applied to several others, according as the circumstances and situation of patients require.

The artificial manufacture of mineral waters forms now an object of trade. The method of preparing these does not enter into our present object. These imitations have been found at times highly useful where patients cannot enjoy a resort to the natural productions, or where the predominant quality of any particular water is wished to be increased for certain purposes beyond what the natural production possesses. The illustrious Bergman was the first who set the example of these imitations, and the French chemists have since brought them to great perfection. The chief art lies in the introduction of the proper quantity of gaseous matter, on which the power of their effect as medicines greatly depends. I am, indeed, fully persuaded, that an institution of this kind, where all the mineral waters in use could be readily had in an active state, and where at the same time the external application of them could be made

made with the same advantage of temperature and impregnation as at the watering places, would be productive of the best consequences to the interests of humanity, would simplify the art of healing, and would lead to a successful treatment of many obstinate diseases, which form at present so many reproaches to the profession. In a situation of this kind every advantage, also, of medicine itself could be had to co-operate with them.

PART IV.

HAVING enlarged, as far as may seem necessary in a medical view, on the principal watering-places, and considered the various impregnations their fluids possess, it remains as the last part of our task to remark a few leading particulars respecting the climate, situation, and accommodations of each, so far as is essential to be known for the convenience of the invalid. A more extensive view of the subject, which does not enter into our plan, will be found in Mr. Phillips's Guide, a work that ought to be in the possession of every traveller; and from it also we shall note several of the inferior watering-places, which did not properly deserve a principal attention in the preceding part of the work.

In this Part we shall follow the same arrangement as observed in the classification.

CLASS I.

Acidulous Watering-places.

MALVERN.—Strongly impressed with an idea, which observation on the spot has confirmed, that Malvern hills, on account of the salubrity of the air, are not less restorative to health than its wells, we shall begin with the former, and advise visitors and invalids who resort to this place to do the same.

The

The Malvern chain lies in the three counties of Worcester, Gloucester, and Hereford, but principally in the former. Before it, on the east, spreads an extensive plain of luxuriant fertility; on the west or Herefordshire side, the country is more broken and uneven, but in general not less prolific.

These hills extend about nine miles in length, and from one to two miles and upwards in breadth. The highest parts are those distinguished by the name of the Herefordshire and Worcestershire beacons, which are about four miles distant from each other; the former rising to about 1260 feet, and the latter to about 1300 feet, above the level of the plain.

Malvern hills consist of various strata, chiefly granite, a siliceous substance of a grey colour, mixed with red veins: it resists acids, and takes a good polish. They contain also a considerable quantity of quartz, and a great variety of calcareous, mineral, and argillaceous substances detached in masses, or deposited in veins in the superincumbent gravel. The most remarkable of these productions is a large mass of ore, lying on the summit of the hill, about a mile to the southward of the village of Great Malvern. This being ponderous, was supposed to contain some kind of metal; but, from repeated experiments, it is found to be a kind of mica, not fusible by any known process. It is probable, however, that in the bowels of the hill are some valuable metallic substances. The western declivity contains a bed of limestone, in which many fossil substance are discovered.

The

The principal spring here is the Holywell. The source of the Holywell is secured by a convenient erection, containing a bath and other accommodations ; and at a small distance is a large and commodious lodging-house, capable of receiving a considerable number of people, who dine at a public table, and live very sociably together. Here is also a billiard-room to amuse them in bad weather ; but such is the romantic situation of the place, and the indescribable beauty of the landscapes, that strangers for some time will feel little disposition to *ennui*, if they enjoy their eye-sight. Company, however, seldom stay long in this place ; but there is a constant succession from Cheltenham, and many other parts of the kingdom, during the summer season.—*Phillips's Guide*.

MATLOCK.—Matlock lies about twelve miles south-east of Buxton, and 144 from London. Its romantic beauty, as well as the salutary springs, which enrich this sequestered spot, render it dear to the man of taste, as well as to the invalid. To the former it presents Nature in her wildest and most picturesque attire ; to the latter it furnishes gaiety, without dissipation, and tranquillity, without gloom ; while the philosopher will find a new source of gratification in those objects, which only amuse the eye of uninformed ignorance.

The village which constitutes what is denominated Matlock-bath, consists principally of three inns, known by the names of the Old Bath, the New Bath, and the Hotel, and of two commodious lodging-houses, all situated on the south-east side of the Derwent, affording
accommodation

accommodation to about 400 visitors, who live here like one large family, enjoying every comfort of society without unnecessary form, and without parade, at a moderate expence.

The roads in the vicinity are as smooth as gravel-walks, and exercise either on foot, in a carriage, or on horseback, is as delightful as can be conceived. It is true indeed that rain falls here more frequently and copiously than in champaign situations ; but the nature of the soil quickly absorbs the superabundant moisture, and humidity is never found to affect the health of the most delicate.

The buildings at Matlock are elegantly constructed of stone, and cleanliness and comfort pervade every object, a circumstance that has attracted the particular notice of every stranger.

The warm springs here were first noticed about 1698, when the bath was paved and built by the Rev. Mr. Fern, of Matlock, and Mr. Heyward, of Cranford. It afterwards fell into the hands of Mr. Wragg, who, to confirm his title, took a lease of it from the different lords of the manor for 99 years ; and, thus secured, he built a few small rooms adjoining to the bath for the accommodation of company.

Two gentlemen of Nottingham having purchased the lease and property of Mr. Wragg, erected several accommodations on a large scale, and made a road, by which a communication was opened with the southern parts of Derbyshire.

Some years afterwards another spring was discovered,
at

at the distance of about a quarter of a mile from the old one; and here likewise a bath and other appendages were erected.

At a still later period, a third spring was found, between 3 and 400 yards to the eastward of the original bath; and this being likewise enclosed, and a lodging-house built, by gradual enlargements the latter has risen to a considerable degree of elegance, and now forms a very commodious hotel.

The fame of Matlock water seems to have regularly increased, and the number of visitors have been proportionably augmented. It has been analysed by several eminent physicians, who all agree that it is grateful to the palate, though they differ somewhat in its component parts.

The usual time of bathing, and drinking the waters, is before breakfast, or between breakfast and dinner, and the Matlock season commences with April, and ends with October.—*Phillips's Guide*.

BRISTOL.—Bristol is built in a most delightful and healthy country, surrounded with verdant hills, which in the north and east rise to a towering height, and shelter it from the chilling blasts, while they serve to diversify the objects, and to give beauty to the scene.

The surrounding districts are variegated with high salubrious downs, producing the sweetest herbage; fruitful vallies, watered with springs, rivulets, brooks, and rivers; steep precipices and rocks, waving woods, and the most charming natural prospects, embellished by art. In the immediate vicinity, are many handsome
and

and pleasantly situated villages, interspersed with seats of the nobility and gentry, all which unite to render Bristol an object of attraction, even to those who cannot be biassed by native partiality.

This city, taken with its accompaniments, may be said to stand in a vale, on eminences, and level ground. Some parts of it indeed are built on steep and lofty acclivities, which render the use of carriages inconvenient. Kingsdown, St. Michael, and Brandon-hill, rise nearly 250 feet perpendicular above the bed of the river, and consequently viewed from such elevations, the lower buildings of Bristol appear to be sunk in a deep valley, while the spectator looks down on the loftiest spires; yet many streets, of the lower part of the city, stand on fine elevations from the river, and appear to be sufficiently airy and salubrious.

At all seasons of the year the Hotwell water has the same efficacy and temperature; but the time of general resort is from the middle of April to the end of October. Spring and summer are unquestionably most favourable for invalids of every description, and particularly so for those who are consumptive; and, if we combine the salubrity of the air in this vicinity with the medical qualities of the water, no situation seems to be more auspicious and inviting than this.

After quaffing the salutary beverage, those who are inclined have the advantage, during rainy or cold weather, of walking under a colonnade, in a crescent form, with ranges of shops.—*Phillips's Guide.*

CLIFTON.—The beautiful village of Clifton, which, for
the

the purity and salubrity of its air, has been denominated the Montpelier of England, from its elevated situation furnishes the most charming views over the western part of Bristol, and of the Avon for a considerable way, with its moving scene of ships. It stands on a hill, which rises by a gradual ascent from the river, and is, in a great measure, covered with villas, and elegant piles of building.

The principal situations for those invalids who prefer this airy abode, are Sun-row, and Gloucester-place, on Clifton Down; the Prince of Wales's Crescent; the Mall, which may be regarded as the principal beauty of Clifton; Rodney-place; Boyce's buildings; York-buildings, &c. &c.

Saline Mineral Spa Water.

Mineral springs abound every where; but it requires some labour and expence to bring them into fashion. Fortunately for the proprietor of this, which is situated below Mardyke, in the street leading from Bristol to the Hotwell, little more was necessary than to obtain the sanction of a medical gentleman of eminence, and an enumeration of its qualities and virtues, for lodgings, rooms, &c. &c. were all ready; and as variety is always charming, those whom warm water did not suit, might here try cold.

This water, which issues from the chasm of a rock, is perfectly transparent, and contains an admixture of the saline and chalybeate, with certain proportions of fixed and dephlogisticated air. It has nothing nauseous
in

in its taste ; and is said, by those who have made the experiment, to act in the mildest manner on the most irritable and delicate constitutions. It is reputed very efficacious in all cases of visceral obstructions, in hypochondria and female complaints ; and it has performed some incontestible cures in scrofula, scurvy, and jaundice. It sharpens the appetite, raises the spirits, and invigorates the whole frame.

Convenient hot and cold baths are constructed for the accommodation of patients ; and there is reason to believe that this spring will be found to answer the high character which has been given of it.—*Phillips's Guide*.

Buxton.—Buxton lies in a pleasant bottom, surrounded with hills of a most rugged aspect, and was formerly an insignificant village ; but the goodness of the roads, its central situation, the salubrity of the air, and the medicinal effects of its springs, have all contributed to its improvement, and it is now become a place of fashionable resort, with accommodations suitable to the number and quality of its visitants.

The baths, which are five in number, have been formed at different periods: the gentlemen's bath is by far the most ancient ; that appropriated for the use of the ladies is comparatively modern. There are also three private baths for persons of condition, one for the poor, and a cold bath, all adjoining each other, but rendered distinct by art. The principal bath is twenty-six feet long, twelve wide, and four feet nine inches deep, paved at the bottom. The two principal springs rise up through a kind of black lime-stone rock.

The water is warm, and resembles that of Bristol. It raises the thermometer to between eighty-one and eighty-two, and has a sweet and pleasant taste.

Besides the hot water on the other side of the Wye, which is here an inconsiderable brook, and opposite to the hall, is a chalybeate spring, of a rough irony taste, which being mixed with the former, proves purgative.

The walks and rides from Buxton are more airy than pleasant, except to the lovers of romantic and uncultivated nature.—*Phillips's Guide.*

BATH.—Bath may be considered in point of convenience, amusement, and situation, the most delightful watering-place of the whole. It is surrounded by an amphitheatre of hills, except where they open to allow a course for the Avon, which winds slowly and majestically through the city, and being navigable from hence to Bristol, facilitates the intercourse with that busy port.

The valley, in which Bath lies, being too small to contain the numerous splendid buildings which have been erected here within the space of a century, they gradually covered the side of the hill towards the north, and now crown its summit. Nothing indeed can be more picturesque than the appearance of this city, where houses rise behind houses in progressive order; while the most elevated seem to look down with a proud superiority on the no less elegant and extensive structures below. From the hills which environ it, excellent springs of water arise; and by means of pipes almost every

every house is supplied with that necessary of life in the greatest perfection.

The public baths in this city are the King's and Queen's Baths, both connected with each other, the Hoth Bath, and the Cross Bath.

The King's Bath lies behind the Great Pump-room, from the windows at the upper end of which it is visible. It is more than 65 feet long, 40 wide, and contains 346 tons, 2 hogsheads, and 36 gallons of water, when filled to its usual height. A brass hand-rail, of an octagonal form, encloses the centre, in which the main spring has its source, and the sides are surrounded by a handsome colonnade of the Doric order, to shelter the bathers from the inclemency of the weather. This bath fills in nine hours, and raises the thermometer in its warmest part to 103, and in its coolest to 100.

Two commodious rooms are connected with this bath, fitted up with pumps and pipes to direct the hot water to any particular part of the body. There are also fire-places, and other conveniences, for the use of the bathers.

The Queen's Bath, which is attached to the King's, forms a square of twenty-five feet, and is furnished with the same conveniences as the other. The temperature is somewhat lower than in the King's Bath.

The Cross Bath receives its appellation from a cross erected in its centre by the Earl of Melfort, secretary of state to James II. but which is now removed. It is situated at the extremity of Bath-street, to which it forms an handsome termination. This bath is of a tri-

angular form, constructed after a plan of Mr. Baldwin, and has convenient slips for bathers. A small neat pump-room is attached to it. The Cross Bath fills in sixteen hours; and the thermometer stands in it between 93 and 94.

The Hot Bath stands about 40 yards south-west of the King's Bath, and is so called from the superior heat of its waters, which rise to 117 of Fahrenheit. This structure, which was built under the direction of the late John Wood, Esq. is about fifty-six feet square, consisting of an open bath, private baths, dry pump-rooms, and vapour baths, constantly kept warm by the fires of an adjoining dressing-room, with which they communicate. The Pump-room is a little to the westward, and is rather a gloomy apartment. The hot bath fills in eight hours.

The public baths at this present time are chiefly used by hospital invalids, or by persons of the lower class of life; for since the erection of private baths, which are furnished with every accommodation for health, or even luxury, the public baths are little regarded by people of condition.

Private Baths.—The private baths are those belonging to the corporation in Stall-street, built in 1788, under the direction of Mr. Baldwin. They adjoin the King's Bath, and contain dry pump-rooms, sudatories, and other suitable conveniences. To these must be added the neat and convenient private baths, called the Duke of Kingston's or the Abbey Baths, now the property of Lord Newark, and in the occupation of his tenant.

The

The public roads round Bath have been greatly improved within the last twenty years ; but such is the situation of the place, that which ever way a person walks or rides, except towards Bristol or London, he must ascend hills of no small steepness and elevation ; but when their summit is once gained, the purity of the air and the beauty of the prospects are an ample recompence for the toil.

Lansdown is one of the most elevated hills in the west of England, and feeds a vast number of sheep, whose flesh is highly esteemed for its delicacy. From hence is a fine view of the Bristol Channel, part of Wales, and Gloucestershire. At one particular point, the cities of Bristol and Bath may be seen at once.

Claverton Down to the east of Bath, is also a well-frequented and agreeable airing for invalids, and possesses its appropriate landscapes.—*Phillips's Guide.*

CLASS II.

Saline, or Maritime Watering-places.

BRIGHTON.—Brighton stands on an eminence which gently declines towards the south-east with a regular slope to the Steyne, a charming lawn so named ; and from thence again rises with a moderate ascent to the eastward, along the cliff to a considerable distance. It is protected from the north and north-easterly winds by an amphitheatrical range of hills, and on the west it has extensive corn fields, which slope from the Downs towards the sea.

The hills round Brighton are of easy access, and co-

vered with an agreeable verdure. From their summits, the Isle of Wight may be plainly seen, with a pleasing view of the weald of Sussex. The soil is naturally dry, and the heaviest rains that fall here seldom prevent the exercise of walking or riding for any length of time after they have ceased; a circumstance not unworthy of regard, in a place of pleasurable attraction.

It must be allowed, indeed, that independently of the celebrity it derives from its royal and noble visitors, no part of the kingdom enjoys a more salubrious air than this. It is considered as an extraordinary case for the natives or constant residents to be troubled with a cough or any pulmonary complaint; and, hence it has been warmly recommended by medical men as a superior situation for the recovery or preservation of health. In cold weather it is sheltered by the hills from chilling blasts: in the hottest season of the year, the breezes from the sea are at once refreshing and salutary. The sea-water is very highly impregnated with salt, and the beach being a clean gravel and sand, with a gradual descent, is peculiarly favourable for bathing. Dr. Russel was very instrumental in bringing this place into fashionable notice, and it has since been adopted by personages, the best qualified by rank and fortune to keep up its fame and its consequence, which a variety of circumstances lead us to suppose are still likely to encrease.

Hot and Cold Baths.

These are situated near the Steyne, and were begun erecting in 1759, after a plan of Mr. Golden. On one
side

side of a handsome vestibule are six cold-baths, and on the other hot-baths, sweating and shower-baths, all which are supplied from the sea, by means of an engine.

These baths may be engaged by subscription for one, two, or three months, or for a single immersion. When a hot-bath is required out of the usual hours, previous notice should be given, that it may be engaged and prepared.

These artificial baths are extremely convenient. In some states of health, the patient requires a warm or tepid bath to begin with, and many are able to support a plunge into a cold-bath, where they feel themselves safe, who want nerves and strength to brave the rough embraces of Neptune. Indeed, public bathing at Brighton is exposed to some interruption as well as danger, from the violence of the north-west winds which produce a heavy swell. At other times the beach is certainly preferable. The ladies generally resort to the water on the east-side of the town, and the gentlemen to the west. Thus public decency is preserved, without which no society can long exist.

Chalybeate Spring.

About half a mile to the westward of the church rises this spring, which has of late years been much frequented. It has been analyzed both by Dr. Relhan, and by Dr. Henderson. According to the latter, "This water, when first taken up from the spring in a glass, in appearance greatly resembles a solution of emetic tartar in common water. The taste is not unpleasant, some-

thing like that upon a knife, after it has been used in cutting lemons."

Even a winter's residence at Brighton is far from being unpleasant, and many persons of consequence have made it their usual abode—in the summer season, for the sake of company and diversified amusements—in the winter because the climate is temperate, and provisions and lodgings are then cheaper and more abundant.—*Phillips's Guide.*

MARGATE.—Margate, conveniently situated in respect to the metropolis, for conveyance by water or land, and delightfully situated on the populous and finely cultivated Isle of Thanet, is always enlivened by a more numerous company than any other sea-bathing place. The hoys, which sail every tide from Billingsgate, are cheap, and sometimes agreeable and rapid conveyances, but as the distance by land is only 73 miles, the roads good, and the vehicles numerous and certain, most persons, ladies especially, prefer the passage by land.

Bathing Rooms and Machines.

The bathing rooms at Margate are situated near the harbour, on the western side of the High-street, and though they are seven in number, and several machines belonging to each, company have frequently a considerable time to wait, before they are able to procure a dip. Each person on his arrival enters his name, that he may have his regular turn, and in the meanwhile may amuse himself with reading the newspapers, thrumming a piano-forte, or in conversation with fellow-expectants.

The

The machines, which were the original invention of Benjamin Beale, a quaker, of Margate, are on a very commodious construction, and may be driven to any depth in the sea under careful guides.

There are also four marble salt water warm baths filled from the sea, which may be had at any temperature on giving a short notice.—*Phillips's Guide.*

WEYMOUTH.—Since their majesties, and other branches of the royal family, first visited Weymouth in 1789, and honoured it with an annual residence of some weeks, during the season, it has become one of the most fashionable of all the sea-bathing places.

Weymouth, in Dorsetshire, distant about 128 miles from London, stands on the south side of the river Wye, which separates it from the town of Melcombe Regis, on one of the finest bays in the world.

Bathing Machines and Baths.

The place where the company bathe is the beautiful bay which lies in the front of the town, close to some of the most fashionable lodgings and places of public resort. Being admirably protected from all winds, the sea is remarkably tranquil; and hence, at all times of the day, immersion in the briny flood is not only safe but delightful. The sands are as smooth as a carpet, and solid to the tread, and the bathing machines, upwards of thirty in number, are in constant requisition from six o'clock in the morning till noon. They are drawn into the sea by a horse to the necessary depth, and are attended by proper guides on the usual terms, and in some cases under.

A commodious hot salt-water bath, on a very large scale, is also erected in a central part of the town, and deserves encouragement, not only on account of its manifest utility in many cases of human infirmity, but from the manner in which it has been fitted up and is conducted. The price of a single bath is 3s. 6d. if before six in the evening, and 4s. if after. A sedan-chair is kept in constant attendance.

There are, likewise, private cold baths, which many timid or infirm persons prefer to plunging at once into the arms of Neptune. A superb bath of this description was erected as a speculation, for the use of his majesty, but it was used only once, and the reason assigned was, that the water contained less of the marine salt than that on the beach.

Nottingham Mineral Spring.

In the neighbourhood of Weymouth, at the distance of twelve furlongs from the turnpike, on the left of the Dorchester road, lies the small hamlet of Nottingham, famous for its medicinal spring, which has been found extremely serviceable in cutaneous and scorbutic disorders. It has a strong sulphureous smell, though perfectly limpid, and acts chiefly on the urinary passages. It appears from analysis to contain hepatic, phlogisticated, and fixed air, the digestive salt of Sylvius, vegetable alkali, magnesia, &c. and strongly resembles the Moffat water in Scotland. Combined with sea-bathing, under the direction of a judicious physician, it promises to be extremely efficacious in many cases of human infirmity.—*Phillips's Guide.*

CLASS

CLASS III.

Chalybeate Watering-places.

TUNBRIDGE WELLS.—Tunbridge Wells lie in a sandy bottom, closely surrounded by steep hills, which contract the atmosphere, and diminish the elasticity of the air. The general aspect of the country is little inviting; and, but for its salutary springs, and its artificial allurements, few would be inclined to select it for their residence.

Situated on the southern side of the county of Kent, on the borders of Sussex, the large and populous village called Tunbridge Wells, is partly built in the parish of Tunbridge, and partly in the parish of Speldhurst, consisting of four divisions, Mount Ephraim, Mount Pleasant, Mount Sion, and the Wells; which, united, form a considerable town.

The Wells : their Qualities and Virtues.

That part which, by way of distinction, is called the Wells, is the centre of business and amusement; because here rise the springs, here the markets are held, and here the chapel, the assembly rooms, and the public parades are situated.

Chalybeate springs are common in this district; but, as the properties of all are nearly the same, only the two which were first discovered are held in any particular estimation. These are enclosed with a handsome triangular stone wall, containing a well-paved area, which is entered by a handsome gateway. Over the

springs are placed basons, with perforations at the bottom, and an opening in the edge, to discharge the overflowings.

The water at the fountain head is extremely clear and pellucid. It has little smell, but the taste is strongly impregnated with iron.

The season at Tunbridge Wells being now of much longer duration than formerly, some families come as early as March or April, and many continue here till the latter end of November, particularly those who come merely for the benefit of health, the water being reckoned equally in perfection in cold weather, provided it be dry; and the air, though sharp, as pure and healthy as in summer.—*Phillips's Guide*.

CHEL TENHAM.—Cheltenham, distant about ninety-five miles from London, is pleasantly situated in the rich and beautiful vale of Gloucester, well sheltered by hills from the chilling blasts, and enjoys a fine and mild air.

Persons who come to Cheltenham with no immediate view to the benefit of the waters, constantly find an increase of appetite, which must be principally ascribed to the purity and salubrity of the air, and to that exercise and disengagement from care which new scenes and situations generally produce. Indeed Gloucestershire is famous for the healthiness of its inhabitants, and the longevity they reach. In the reign of James I. eight old men, all belonging to one manor in this county, whose ages added together made as many centuries, danced a morris dance. That several neighbours should

should reach the age of 100 is nothing very wonderful in several situations and countries; but that they should be able to dance, is certainly an astonishing circumstance.

This valuable and salubrious spring rises at the distance of one-third of a mile south of the church, in a mixed loamy and sandy soil, which prevails for several miles round, and produces abundant crops of every kind of vegetation, while it seems to render the air elastic and pure.

This water owes its discovery to a slow spring, being observed to ooze from a strong thick bluish clay or mould, under the sandy surface of the soil, which, after spreading itself for a few yards, again disappeared, leaving much of its salts behind.

The springs here are three, the Spa, already noticed, the King's Well, and Chalybeate Spring. The last, though only known to exist before, was particularly noticed last summer, promises to possess very active virtues, and will probably rival Tunbridge and Astrop. It is the property of Mr. Barret, situated in a meadow, two or three hundred yards from the mill, at the top of the town. A pump-room has lately been erected, and a book opened, which has already a great number of subscribers; but it has not yet been sufficiently analysed to allow us to speak with confidence on its qualities and effects. We are informed that Dr. Jameson, an eminent physician of London, who examined the water last summer, intends soon to publish an account of it.

Hot Baths and Waters.

For a long time hot baths were a desideratum here, but Freeman has fitted up some in the High-street, on an excellent principle, and which meet with the encouragement they deserve. Perhaps every person should use the Bains de Santé, or tepid baths, once or twice, before they begin a course of the waters.—*Phillips's Guide.*

CLASS IV.

Sulphureous Watering Places.

HARROWGATE.—While some places are visited because they are fashionable, and others on account of the beauty of their scenery, Harrowgate possesses neither of those attractions in any superior degree, and therefore is chiefly resorted to by the valetudinary, who frequently drink health from its springs; else we cannot suppose that upwards of two thousand persons would annually visit this sequestered spot.

It lies two miles north-west of Knaresborough, and about 212 from London; consisting of two scattered villages, distinguished by the names of Higher and Lower Harrowgate, nearly a mile distant from each other; both built on a dreary common, yet possessing sufficient accommodations for company, who, mixing in social parties, enjoy more pleasure amidst the bleak and barren wilds of Yorkshire, than many taste in the fashionable haunts of Bath and Brighton.

The Wells—their Qualities and Virtues.

The Old Spa, discovered by Captain Slingsby in 1571,
rises

rises opposite the Granby Inn, and has an elegant dome over it, erected at the expence of the present Earl of Rosslyn in 1786. This is strongly impregnated with steel, and is still much frequented by those for whom tonics are recommended.

Another chalybeate, called the Tewit Well, stands about half a mile west from the former, from which it differs very little.

The Sulphur Wells, as they are called, are situated at Lower Harrowgate, and are properly inclosed and secured. They were discovered long after the others, and have maintained the reputation which they early acquired.

After all, in the opinions of the best physicians, the Harrowgate waters are not essentially different from each other, except in the quantity of saline matter they contain.—*Phillips's Guide*.

SCARBOROUGH.—The double attraction of sea-bathing and mineral waters, which this place possesses, renders it much superior, though not so fashionably frequented as many others.

The sons of pleasure fly to more genial climes, and court the breezes of the south; and, except those who are allured by connections and swayed by local considerations, Scarborough contains, among its visitors, more votaries of health than of dissipation.

Scarborough is distant from London, by the Lincoln road, about 214 miles, and by the road through York 235; from the latter city forty-three miles. It is a well-built and spacious place; but, from its romantic situation, regularity

gularity cannot be expected. As in other places of public resort, however, improvements are constantly carrying on here with activity and spirit ; and it is now capable of accommodating a large number of visitants of every rank and condition. The range of buildings on the cliff commands a fine view of the castle, town, and moving scene of ships, with a vast expanse of ocean.

The resident inhabitants amount to nearly 7000, many of whom are engaged in maritime concerns.

Bathing.

The sudden tides and short breakings of the sea, which often come with great impetuosity, and sometimes danger, render it adviseable to employ guides and machines. The machines amount to about forty, which may give some idea of the numbers that require them. They are well attended, and drawn into any depth the bathers chuse. A boy generally drives the horse, and men and women guides attend, if required, in the machines.

The regular charge is a shilling every time, but the attendants expect a gratuity at going away, nearly equal to the sum paid to their masters ; and few will dispute their right to a remuneration, when it is considered that they undertake the office from the hopes of receiving one.

Morning, as at other places, is the usual time for bathing, as well as for drinking the waters.

The shore is a fine hard sand ; and, during low water, is much frequented by the company for walking or riding.

The

The Spa.

The Spa is about a quarter of a mile south of the town, on the sands, at the foot of an exceeding high cliff, and rises upright out of the earth, near the level of the spring-tides, which often overflow it. The Spa consists of two wells, and was discovered about two centuries ago; and ever since, the water has been held in high estimation.

One of the wells is more purgative, and the other more chalybeate; hence the latter, which is nearest the town, has been called the chalybeate spring, and the other the purgative, though they are both impregnated with different proportions of the same principles. The aperient is that which is usually called the Scarborough water.—*Phillips's Guide.*

Smaller Watering Places, mostly for Sea-Bathing.

EAST BOURNE.—If amenity of situation, salubrity of air, and facility of communication with the metropolis, and with other public places, are sufficient to draw company to any place, in all these respects East Bourne has just claims to distinction.

This delightful village, which lies twenty-two miles east of Brighton, and sixty-four from London, is situated at the extremity of the South Downs, in Sussex, from which circumstance it receives its appellation.

East Bourne possesses a chalybeate spring, which rises about a mile to the westward of the sea-houses, at a place called Holywell. It has been recommended in all cases for which the Bristol waters are serviceable; but

but it does not appear to be much used.--*Phillip's Guide.*

BROADSTAIRS.—Broadstairs is a bathing place in the Isle of Thanet. The success of a neighbour generally excites envy or emulation. Margate on the one side, and Ramsgate on the other, having risen into high reputation as bathing places, Broadstairs, adopting the common principle, has attempted to rival them, or at least to withdraw a share of their trade. The consequence has been, that starting with a small capital, it has neither been able to injure them in any essential degree, nor to benefit itself beyond obtaining a moderate competence.

Broadstairs, usually pronounced Bradstow by the inhabitants, is a hamlet belonging to the parish of St. Peter in the Isle of Thanet, distant three miles to the south-east from Margate, and two miles to the north from Ramsgate. Of late years it has become the resort of many respectable families during the summer, who preferring retirement to the gaiety and bustle of a public place, find in the society and accommodation here, all the agréments which they wish.

In the harbour, and off its mouth, is the bathing place. The machines and rooms are on the same principle and terms as those at Margate and Ramsgate, between which places a constant intercourse is kept up, as they both lie within an easy morning ride, or even a walk.—*Phillips's Guide.*

COWES.—Though several towns and villages on our coasts, which our limits will not permit us to describe, possess

possess equal, or superior celebrity to Cowes as a bathing place, yet so numerous are the charms of the Isle of Wight, so salubrious is the air, and so mild is the climate, that we know not any situation which deserves better to be selected for a summer sejour than this, or rather as the station which admits the easiest communication both with the continent, and the internal parts of this lovely island.

On the beach at West Cowes, the landing place from Southampton, and the principal port of the island, stands on the declivity of a hill, at the mouth of the river Medina, and, though it does not convey a very favourable impression on first entering it from the harbour, the streets being narrow, and not very clean, yet it contains many pleasant houses along the beach, westward, some of which range with the sea, others rise up the acclivity to its very top, and afford the most delightful views. It is in this quarter of the town that lodgings are most sought for, and that villas are continually rising, and nothing can be more pleasant than the situation of some of them. A moving scene of ships, a pure marine air, and a beach not unpleasant to walk on, are among some of the local advantages which this place presents to visitors.

The bathing machines are placed near this spot, in the vicinity of the castle; and from the manner in which they are constructed, and the position they hold, a person may safely commit himself to the bosom of Neptune, at almost any state of the tide. A hot salt water bath is also erected here, which is in frequent requisition.

Hitherto

Hitherto five or six bathing-machines have been found sufficient for the company, particularly as many of the male sex walk along the sequestered beach, towards what is called Egypt, and commit themselves to the waves, without any ceremony; but, from the increasing resort of people of fashion to Cowes, it is probable additional accommodations will be wanted, and, no doubt, will be liberally supplied.—*Phillips's Guide*.

CROMER.—Though the interior of Cromer presents little to interest, its exterior is replete with beauties of the first magnitude; and it is by no means surprising that a situation commanding so many attractions should have been thought of by those who are engaged in the ardent search of pleasure, or of that more endearing possession—health.

Cromer, situated on the north-east of the county of Norfolk, is distant about 130 miles from London, through Dereham; and 133 through Norwich. It is built on the verge of the British ocean, whose encroachments have been so great, that, though the town is defended by cliffs of considerable height, in the memory of man upwards of twenty houses have, at different times, been precipitated into the tide.

The bathing-machines are on a good plan, and are attended by careful persons. The shore, which is a fine firm sand, not only renders bathing delightful, but, when the tide retires, presents a charming level for many miles.—*Phillips's Guide*.

DAWLISH.—Dawlish, lying about 184 miles from London, from a small fishing cove, has, within a few years,

years, risen into a state of comparative elegance and extent. At first it was resorted to by those who wished for more retirement than they could enjoy at well-frequented places ; but, by degrees, its pure salubrious air, the conveniences it afforded for bathing, and its natural beauties, pointed it out as an eligible summer retreat.

The bathing machines are numerous, and well conducted. The beach in front of the lodging houses has a gentle descent to the sea, which is generally pure and clear.—*Phillips's Guide.*

LITTLE HAMPTON.—Little Hampton, distant about twenty-five miles to the west of Brighton, and sixty-one from London, is, as its name imports, a little place, and at present every thing connected with it is on a little scale. The bathing machines are few in number, and the lodging-houses are in proportion. The latter are built at some distance from the sea, against whose encroachments the proprietors have thus wisely provided, perhaps from reflecting on the liberties which Neptune has been apt to take on this part of the coast, for a long series of generations. The house of public refreshment, however, which unites the character of inn, hotel, or every thing in one, is built upon a kind of sand bank, approaching so near to the tide, that, to use the witty remark of Mr. G. S. Carey, many have been apprehensive lest the god of the sea should make an unmannerly attack, and enter the room while they were enjoying themselves over their meal.

The purity of the sea-air, which meets with no interruption from intervening objects, cheapness, and retirement,

ment, seem to be the principal recommendations of this place, which is certainly well adapted for family parties, whose enjoyments begin and end in their own circle. Such, indeed, will find comfort and amusement any where, even at home, which is so much dreaded by the unhappy, the dissipated, and the gay; and such will find Little Hampton more congenial to their taste than the resorts of wealth and grandeur.—*Phillips's Guide*.

HARWICH.—Harwich, situated on a peninsula of the Essex coast, near the estuaries of the Stour and the Orwell, is about seventy-two miles south-east of London, and is more known as the port from which the packets usually sail for Holland and Germany than as a bathing-place. Yet there is a considerable resort of company there during the proper season, particularly from the neighbouring districts, who seem to spend their time and money very agreeably, the two grand objects for which excursions to the sea-coast are usually made.

Till lately private baths, covered over and filled by the influx of the tide, were in common use here; but since bathing machines have become so much in fashion, a few have been erected, and are more used because it is the mode, than because they are necessary.—*Phillips's Guide*.

HASTINGS.—The ancient town of Hastings, one of the cinque ports, and the principal member of that political association, stands near the eastern extremity of the county of Sussex, distant about sixty-four miles from London. The beautiful walks and rides in its vicinity, and the interesting objects to which they con-
duct;

duct ; the purity of the air, and the amenity of the situation, all point it out as an eligible station for bathing or recreation.

Bathing Machines.

These machines, which amount to nearly twenty, stand to the westward of the town, close to the Parade, on which is a small building called the Bathing-room. At low water, a fine level sand extends for a great distance ; and the shore has such a gentle ascent, that bathing is safe at any time of the tide. The sea, also, is perfectly clear, and free from weeds, or any thing disagreeable.—*Phillips's Guide.*

ILFRACOMBE.—Ilfracombe is a seaport town on the north coast of Devonshire, 205 miles from London, 50 from Exeter, and eight from Barnstaple. It has a pier, within which is a large commodious harbour, where ships of any burden may ride with perfect safety in the most violent storms. The harbour is a semicircle, surrounded with hills, from the summits of which there are many delightful views to the east and west ; and, in a clear day, the coast of Wales may be distinctly seen. The town consists, for the most part, of an irregular street, above a mile in length ; at the upper end of which is the church, a large plain structure, remarkable for nothing but a monument to the memory of captain Thomas Bowen, who was killed in the attempt upon Teneriffe, where he acted with Lord Nelson. This monument was erected at the expence of the nation.

Outside the pier there are several coves, admirably
adapted

adapted for bathing ; for which purpose there are many convenient machines.—*Phillips's Guide.*

LYME.—Lyme is in Dorset, but on the borders of Devon, distant about 143 miles from London. It is built on the declivity of a craggy hill, at the head of a little inlet of the sea, and contains many respectable looking houses, with pleasant gardens, particularly in the upper part of the town ; but the streets are steep, rugged, and unpleasant. In the lower part of the town the houses are mean, and the streets so intricate, that a stranger, as has been wittily remarked, will sometimes find himself bewildered and entangled, as if he were thridding a forest or the labyrinth of a fox-den. Here the lower order of the inhabitants in general reside, having accidentally that position which nature and fortune have assigned them. To be a person of consideration at Lyme, it is necessary to toil up hill, and to fix one's abode where it is in danger of being assailed by every wind that blows.

Lyme, upon the whole, may perhaps be regarded, when compared with other sea-bathing places, as one of the most eligible and best adapted for answering the various purposes for which it has for some time past been the rage to make annual excursions to the coast. These objects, it is likewise worthy of remark, may, on this comparatively retired and humble spot, be secured in a manner more compatible with the rigid rules of economy, than at places of more public and splendid resort : places which will, in general, be found better
calculated

calculated to ruin the fortunes, than to mend the constitutions of their fashionable visitors.

Health, when there obtained, is for the most part purchased at an expence which none but an opulent valetudinarian can afford to pay.

Lodgings and boarding at Lyme are not merely reasonable, they are even cheap; the dissipations for the healthy, and the suitable accommodations for the sick, are within the reach of ordinary resources.

It is frequented principally by persons in the middle class of life, who go there, not always in search of their lost health, but as frequently perhaps to heal their wounded fortunes, or to replenish their exhausted revenues.

From this circumstance, there arises no necessity for making any inconvenient sacrifices to the support of style, or to the extravagance of exterior shew.

Another circumstance particularly advantageous to invalids, is the early hours at which the public visits and amusements regularly terminate and commence—a matter of more importance than is generally imagined in preserving actual health, or in promoting its restoration. This remark applies more especially to bathing-places. What can be more prejudicial and preposterous, than for those who have perspired for the greater part of the night in crowded and unwholesomely-heated rooms, to expose their bodies, relaxed and feverish, as they cannot fail to be, the next morning, to the shock of an abrupt immersion into the waves of the sea? Partly it is owing to an inattention to this

O

circumstance,

circumstance, that so many persons, especially at an early period of life, who have gone to the coast with the hope of obtaining relief from some slight pulmonary affection, have, in no long time, bathed themselves into an unequivocal and incurable consumption.—*Phillips's Guide.*

RAMSGATE.—Ramsgate, a hamlet belonging to the parish of St. Lawrence, is situated about five miles to the south of Margate, in a valley opening to the south-east, and commands a delightful prospect of the British channel.

Bathing-place, &c.

The bathing-place lies in front of a long line of high chalky rocks at the back of the Pier, and is composed of a reddish sand, soft and pleasant to the feet. Machines ply here in the same manner as at Margate, though they are not so numerous. The rooms for the accommodation of bathers are commodious; and Dyason, of the bath-house, has erected four warm salt-water baths, also a plunging and shower-bath, to which are attached convenient waiting and dressing-rooms. This ingenious and useful erection deserves every encouragement.—*Phillips's Guide.*

SOUTHAMPTON.—The lovely situation of Southampton, the elegance of its buildings, the amenity of its environs, and the various other attractions which it possesses, in a very high degree, will always render it a place of fashionable residence, as well as of frequent resort. As a sea-bathing place, indeed, it has less reputation

putation than some others that are described in this work. It has no machines, nor is its beach favourable for immersion; the marine is, also, deeply mixed with the fresh water; but, if the opinion of those is correct, who maintain that water acts only by the shock and ablu-
tion, and that one cold or warm bath is the same as another, Southampton, notwithstanding the disadvantages we have mentioned, is as eligible as any other station on the coast, and, in many respects, it is superior. The air is soft and mild, and sufficiently impregnated with saline particles to render it agreeable, and even salutary, to those who cannot endure a full exposure to the sea, on a bleak and open shore.

Baths.

Near the west quay is a range of convenient and permanent baths, both for ladies and gentlemen, belonging to Mr. Martin. The water is changed every tide; and, though it contains less salt than where the tide is pure and unmixed, it does not appear to be less efficacious in those complaints for which cold sea-bathing is generally prescribed.

Here is also a commodious warm bath, which may be engaged for any hour. Terms 3s. 6d. each time.

Farther on to the eastward, are Webb's Baths, which are likewise well frequented.

Each suite of baths is provided with every necessary convenience, and the whole is laid out in a judicious and elegant manner. Careful guides attend each bath.

Chalybeate Spring.

At the bottom of Orchard-street, on the right, without Bar-gate, is a spring, of the nature of Tunbridge-wells, and is used with effect in the same complaints for which that chalybeate is recommended. A middle-sized tumbler is a sufficient dose, which it is more advisable to repeat than enlarge. This water is frequently drank to promote the advantages of a course of sea-bathing.—*Phillips's Guide.*

SOUTHEND.—Southend, in Essex, is almost wholly a new creation. It is eligibly situated on the slope of a well cultivated and well wooded hill, about forty-three miles from London, and three from Rochford, and lies at the mouth of the Thames, nearly opposite to Sheerness.

The soil about this new establishment is sandy, and the shore flat and so shallow, that at low water a stranger would suppose the sea had bidden good bye to the place, and never more meant to return. The water, however, notwithstanding its admixture with the Thames, is sufficiently salt, and very clear, and for some hours every day is not only safe, but extremely agreeable. The most timid, indeed, need not fear being out of their depth; and those that can swim may here amuse themselves without apprehension. There are several bathing machines in daily use; and, as Southend, from its vicinity to London, is likely to draw still more company, no doubt its accommodations will keep pace with the encouragement given to adventurers and speculators.—*Phillips's Guide.*

SWANSEA.

SWANSEA.—Glamorgan, in which Swansea lies, is a maritime county of South Wales, enjoying throughout, except in the northern part, a mild and salubrious air.

Baths, &c.

Half a mile from the town, on the beach, stands the bathing-house, excellently adapted for its destination; and from the windows of the appurtenant ball room, there is a fine view of the bay, and the coast of Somersetshire.

Here there are convenient warm as well as cold seawater baths — *Phillips's Guide*.

WORTHING.—Worthing, distant fifty-nine miles from London, and eleven westward of Brighton, possesses many attractions, which contribute to render it a desirable residence for those who really wish to enjoy the benefits of sea-bathing or air. It is surrounded, at the distance of not quite a mile, by the uninterrupted chain of the Sussex Downs, which, forming nearly an amphitheatre, completely exclude, even in the winter months, the chilling blasts of the northern and eastern winds. It is a very common thing to see a considerable number of bathers here, even in the depth of winter, the thermometer being generally higher than at Brighton, and upon an average, between two and three degrees above London. But this rural village possesses other powerful recommendations; a facility of bathing, in the most stormy weather, and an extent of sand, as level as the carpet, or at least seven miles towards the west, and

three to the east, on which the pedestrian or the horse-man may enjoy the full refreshment of the sea breeze, during the reflux of the tide, without interruption.—*Phillips's Guide.*

YARMOUTH.—As a sea-bathing place, Yarmouth possesses some advantages over its more fashionable rivals, which entitle it to a place in our volume. From the great extent of the town, lodgings are numerous, and comparatively reasonable, and provisions are not only plentiful, but cheap. To those who study economy, Yarmouth, therefore, presents attractions that will not be overlooked, particularly when the local circumstances of the party are favourable for making it a bathing visit.

The Bath House.

This building, which was erected in 1759, cost nearly 1000*l.* It stands on the beach, which is a sinking sand, about three furlongs distance from St. George's chapel. The vestibule is a neat, well-proportioned room, with windows fronting both the town and the sea. On the right of the entrance are four closets, having each a door into the bath-room. This bath is fifteen feet by eight, and is appropriated for gentlemen. A similar one is assigned for the use of the ladies.

The marine fluid is raised every tide, by a horse-mill, into a reservoir, at the distance of fifty yards from the baths, into which it is conveyed by separate pipes. In short, the accommodations here are perfectly adapted either to the bather for health, or for pleasure: the attendance is good, and the charges are reasonable.

As

As for the machines, they are sufficiently commodious when they are reached ; but, as they stand at some distance from the town, it is not very pleasant to ride on sand up to the horse's belly, or to walk in it up to the knees.—*Phillips's Guide.*

THE END.

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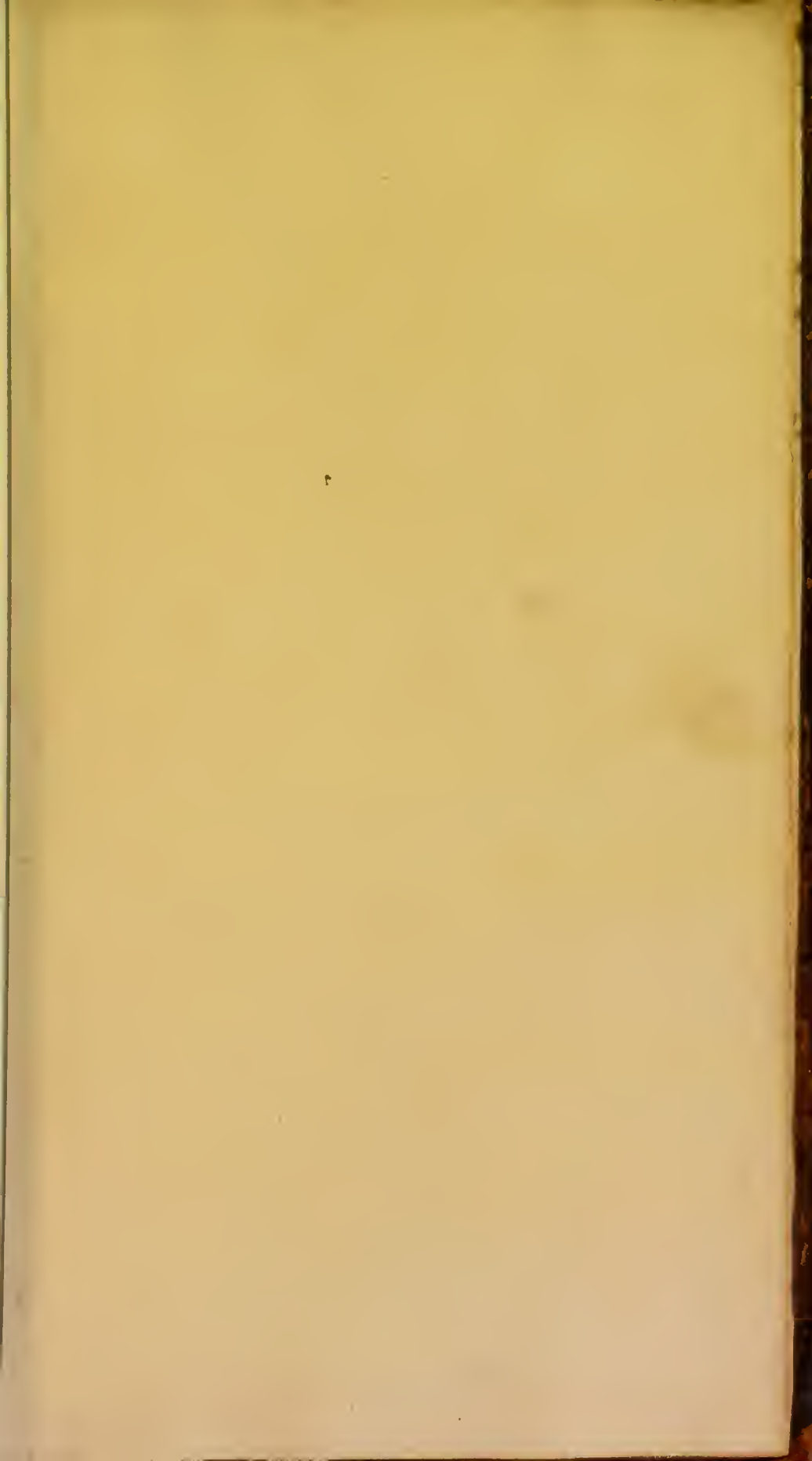
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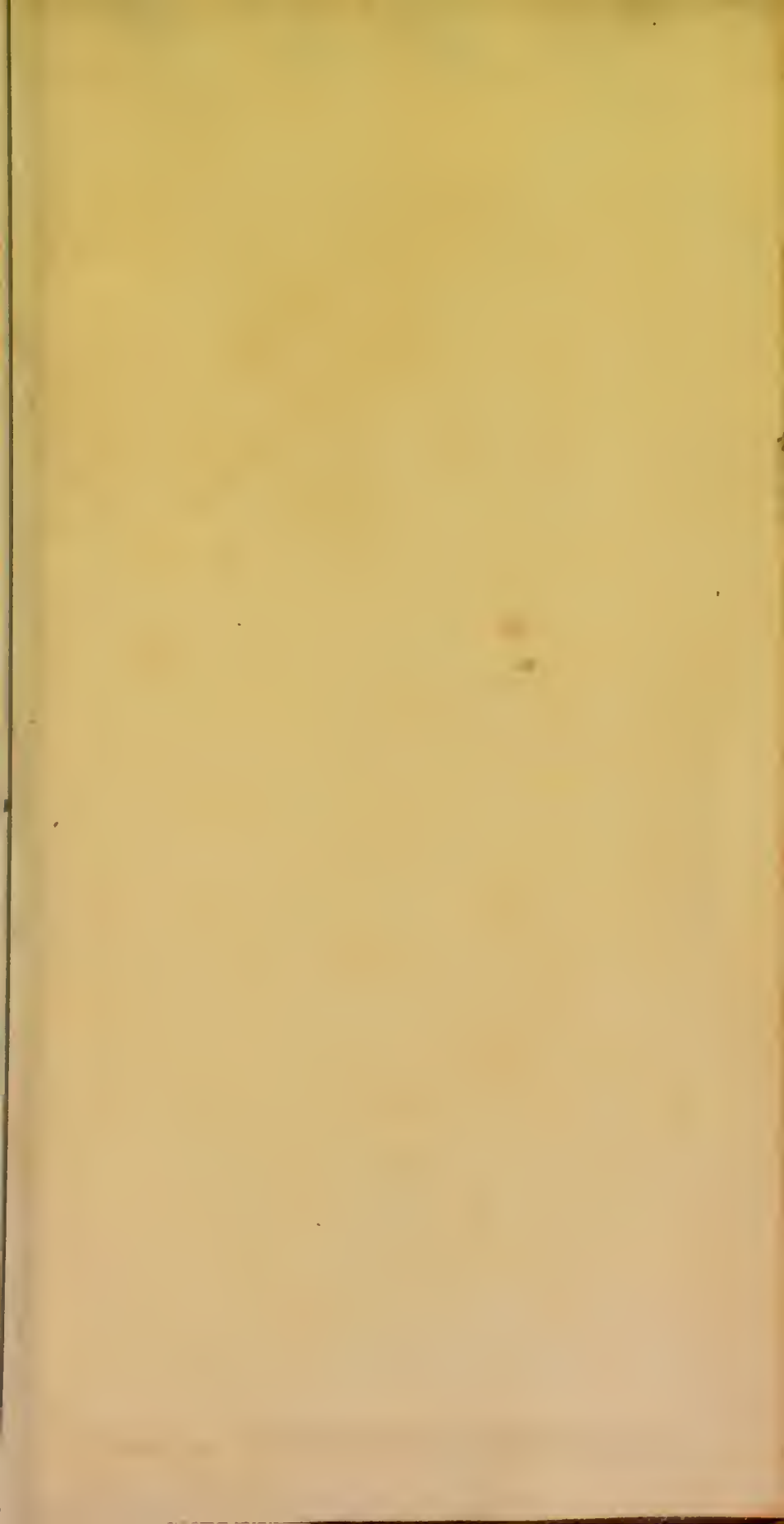
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